

EXHIBIT 3

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Robert A. Lambourne
Title: Controlling and manipulating groupings in a multi-zone music or media system
Serial No.: 60/825,407
Filing Date: 09/12/2006
Assignee:
Examiner: Unknown
Group Art Unit: Unknown
Docket No.: RIN-022P

October 4, 2006

Box Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

Response to Notice to File Missing Parts of Application
Filing Date Granted

Dear Sir:

A Notice to File Missing Parts of Provisional Application was received. The Notice alleges that a cover sheet under 37 CFR1.51 (c)(1) is missing. However, the Applicant believes that such a cover sheet is enclosed at the time of filing the above-referenced application. The Applicant enclosed herewith a copy of the originally filed cover sheet.

37 CFR1.51 (c)(1) states

(1) A cover sheet identifying:

- (i) The application as a provisional application (see line 4)
- (ii) The name or names of the inventor or
inventors, (see § 1.41(a)(2)), (see line 13)
- (iii) The residence of each named inventor, (see lines 15-16)
- (iv) The title of the invention, (see lines 9-10)
- (v) The name and registration number of

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

TRIAL EXHIBIT 2651

Case No. 3:20-cv-06754-WHA

DATE ENTERED _____

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the attorney or agent (if applicable), *(the e-filing has generated the information)*

(vi) The docket number used by the person
filing the application to identify the application (if
applicable), *(see line 21)*

(vii) The correspondence address, and *(the e-filing has generated the information)*

(viii) The name of the U.S. Government
agency and Government contract number (if the
invention was made by an agency of the U.S. Government
or under a contract with an agency of the U.S.
Government); *(Not applicable)*

It is hereby respectfully submitted that the provisional application filed on
09/12/2006 is complete and justifies the US filing date of 09/12/2006.

Please telephone the undersigned at (408)777-8873, if there are any
questions.

I hereby certify that this correspondence is
being deposited with the United States Postal
Service as first class mail in an envelope
addressed to "Commissioner of Patents and
Trademarks, Washington, DC 20231", on
October 4, 2006.
e-filed

Respectfully submitted;

/ joe zheng /
Joe Zheng
Reg.: No. 39,450

Signature: / joe zheng /
Joe Zheng



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| APPLICATION NUMBER | FILING OR 371 (c) DATE | FIRST NAMED APPLICANT | ATTORNEY DOCKET NUMBER |
|--------------------|------------------------|-----------------------|------------------------|
| 60/825,407 | 09/12/2006 | Robert A. Lambourne | RIN-022P |

26797
 SILICON VALLEY PATENT AGENCY
 7394 WILDFLOWER WAY
 CUPERTINO, CA 95014

CONFIRMATION NO. 1970
 FORMALITIES
 LETTER

Date Mailed: 09/26/2006

NOTICE TO FILE MISSING PARTS OF PROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(c)

Filing Date Granted

An application number and filing date have been accorded to this provisional application. The items indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The provisional application cover sheet under 37 CFR 1.51(c)(1), which may be an application data sheet (37 CFR 1.76), is required identifying either city and state or city and foreign country of the residence of each inventor and the name(s) of the inventor(s).

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- To avoid abandonment, a surcharge (for late submission of filing fee or cover sheet) as set forth in 37 CFR 1.16(g) of \$25 for a small entity in compliance with 37 CFR 1.27, must be submitted with the missing items identified in this letter.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$25** for a small entity

- **\$25** Surcharge.

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Office of Initial Patent Examination (571) 272-4000, or 1-800-PTO-9199, or 1-800-972-6382
PART 3 - OFFICE COPY

In the United States Patent and Trademark Office

Provisional Application

for

Controlling and manipulating groupings in a multi-zone music or media system

Inventor: Robert A. Lambourne
2970 Arriba Way
Santa Barbara, CA 93105
Citizenship: United Kingdom

File No.: RIN-022P

Express Mail Label: **e-filed** Date of Deposit: **September 12, 2006**
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Service using "Express Mail Post Office To Addressee" service under 37 CFR 1.10 on
the date indicated above and is addressed to "Mail Stop: New Application, Commissioner
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Signed: / joe zheng /
Joe Zheng

Electronic Acknowledgement Receipt

| | |
|--|--|
| EFS ID: | 1236677 |
| Application Number: | 60825407 |
| Confirmation Number: | 1970 |
| Title of Invention: | Controlling and manipulating groupings in a multi-zone music or media system |
| First Named Inventor: | Robert A. Lambourne |
| Customer Number: | 26797 |
| Filer: | Joe Zheng |
| Filer Authorized By: | |
| Attorney Docket Number: | RIN-022P |
| Receipt Date: | 05-OCT-2006 |
| Filing Date: | 12-SEP-2006 |
| Time Stamp: | 00:34:35 |
| Application Type: | Provisional |
| International Application Number: | |

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| | |
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| Submitted with Payment | no |
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File Listing:

| Document Number | Document Description | File Name | File Size(Bytes) | Multi Part | Pages |
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| 1 | Applicant Response to Pre-Exam Formalities Notice | ResponseToMissingParts.pdf | 156829 | no | 5 |

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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.



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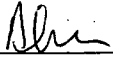
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- **\$25 Surcharge.**

Replies should be mailed to: Mail Stop Missing Parts
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Service using "Express Mail Post Office To Addressee" service under 37 CFR 1.10 on
the date indicated above and is addressed to "Mail Stop: New Application, Commissioner
for Patents, P.O. Box 1450, Alexandria, VA 22313"

Signed: / joe zheng /
Joe Zheng

Controlling and manipulating groupings in a multi-zone music or media system

5

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention generally relates to the area of consumer electronics, and more particularly, relates to techniques for controlling and
10 manipulating groupings in a multi-zone music or media system.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The detailed description of the invention, also in Appendix A and B, is presented largely in terms of procedures in terms of procedures, steps,
15 logic blocks, processing, and other symbolic representations that directly or indirectly resemble the operations of data processing devices coupled to networks. These process descriptions and representations are typically used by those skilled in the art to most effectively convey the substance of their work to others skilled in the art. Numerous specific details are set
20 forth in order to provide a thorough understanding of the present invention. However, it will become obvious to those skilled in the art that the present invention may be practiced without these specific details. In other instances, well known methods, procedures, components, and circuitry have not been described in detail to avoid unnecessarily obscuring
25 aspects of the present invention.

Reference herein to “one embodiment” or “an embodiment” means that a particular feature, structure, or characteristic described in connection with the embodiment can be included in at least one embodiment of the invention. The appearances of the phrase “in one
 5 embodiment” in various places in the specification are not necessarily all referring to the same embodiment, nor are separate or alternative embodiments mutually exclusive of other embodiments. Further, the order of blocks in process flowcharts or diagrams representing one or more embodiments of the invention do not inherently indicate any particular
 10 order nor imply any limitations in the invention.

Referring now to the drawings, in which like numerals refer to like parts throughout the several views. FIG. 1 shows an exemplary configuration **100** in which the present invention may be practiced. The configuration may represent, but not be limited to, a part of a residential
 15 home, a business building or a complex with multiple zones. There are a number of multimedia players of which three examples **102**, **104** and **106** are shown as audio devices. Each of the audio devices may be installed or provided in one particular area or zone and hence referred to as a zone player herein.

20 As used herein, unless explicitly stated otherwise, an audio source or audio sources are in digital format and can be transported or streamed over a data network. To facilitate the understanding of the present invention, it is assumed that the configuration **100** represents a home. Thus, the zone player **102** and **104** may be located in two of the bedrooms
 25 respectively while the zone player **106** may be installed in a living room. All of the zone players **102**, **104** and **106** are coupled directly or indirectly

to a data network **108**. In addition, a computing device **110** is shown to be coupled on the network **108**. In reality, any other devices such as a home gateway device, a storage device, or an MP3 player may be coupled to the network **108** as well.

5 The network **108** may be a wired network, a wireless network or a combination of both. In one example, all devices including the zone players **102**, **104** and **106** are coupled to the network **108** by wireless means based on an industry standard such as IEEE 802.11. In yet another example, all devices including the zone players **102**, **104** and **106**
10 are part of a local area network that communicates with a wide area network (e.g., the Internet).

Many devices on the network **108** are configured to download and store audio sources. For example, the computing device **110** can download audio sources from the Internet and store the downloaded
15 sources locally for sharing with other devices on the Internet or the network **108**. The computing device **110** or any of the zone players can also be configured to receive streaming audio. Shown as a stereo system, the device **112** is configured to receive an analog audio source (e.g., from broadcasting) or retrieve a digital audio source (e.g., from a compact disk).
20 The analog audio sources can be converted to digital audio sources. In accordance with the present invention, the audio source may be shared among the devices on the network **108**.

Two or more zone players may be grouped together to form a new zone group. Any combinations of zone players and an existing zone
25 group may be grouped together. In one instance, a new zone group is

formed by adding one zone player to another zone player or an existing zone group.

Referring now to FIG. 2A, there is shown an exemplary functional block diagram of a zone player **200** in accordance with the present invention. The zone player **200** includes a network interface **202**, a processor **204**, a memory **206**, an audio processing circuit **210**, a digital signal processing module **212**, and optionally, an audio amplifier **214** that may be internal or external. The network interface **202** facilitates a data flow between a data network (i.e., the data network **108** of FIG. 1) and the zone player **200** and typically executes a special set of rules (i.e., a protocol) to send data back and forth. One of the common protocols used in the Internet is TCP/IP (Transmission Control Protocol/Internet Protocol). In general, a network interface manages the assembling of an audio source or file into smaller packets that are transmitted over the data network or reassembles received packets into the original source or file. In addition, the network interface **202** handles the address part of each packet so that it gets to the right destination or intercepts packets destined for the zone player **200**.

The network interface **202** may include one or both of a wireless interface **216** and a wired interface **217**. The wireless interface **216**, also referred to as a RF interface, provides network interface functions by a wireless means for the zone player **200** to communicate with other devices in accordance with a communication protocol (such as the wireless standard IEEE 802.11a, 802.11b or 802.11g). The wired interface **217** provides network interface functions by a wired means (e.g., an Ethernet cable). In one embodiment, a zone player includes both of the

interfaces **216** and **217**, and other zone players include only a RF or wired interface. Thus these other zone players communicate with other devices on a network or retrieve audio sources via the zone player. The processor **204** is configured to control the operation of other parts in the zone player

5 **200**. The memory **206** may be loaded with one or more software modules that can be executed by the processor **204** to achieve desired tasks. According to one aspect of the present invention, a software module implementing one embodiment of the present invention is executed, the processor **204** operates in accordance with the software module in

10 reference to a saved zone group configuration characterizing a zone group created by a user, the zone player **200** is caused to retrieve an audio source from another zone player or a device on the network.

According to one embodiment of the present invention, the memory **206** is used to save one or more saved zone configuration files

15 that may be retrieved for modification at any time. Typically, a saved zone group configuration file is transmitted to a controller (e.g., the controlling device **140** or **142** of FIG. 1, a computer, a portable device, or a TV) when a user operates the controlling device. The zone group configuration provides an interactive user interface so that various manipulations or

20 control of the zone players may be performed.

The audio processing circuit **210** resembles most of the circuitry in an audio playback device and includes one or more digital-to-analog converters (DAC), an audio preprocessing part, an audio enhancement part or a digital signal processor and others. In operation, when an audio

25 source is retrieved via the network interface **202**, the audio source is processed in the audio processing circuit **210** to produce analog audio

signals. The processed analog audio signals are then provided to the audio amplifier **214** for playback on speakers. In addition, the audio processing circuit **210** may include necessary circuitry to process analog signals as inputs to produce digital signals for sharing with other devices
5 on a network.

Depending on an exact implementation, the digital signal processing module **212** may be implemented within the audio processing circuit **210** or as a combination of hardware and software. The audio amplifier **214** is typically an analog circuit that powers the provided analog
10 audio signals to drive one or more speakers.

Referring now to FIG. 2B, there is shown an example of a controller **240**, which may correspond to the controlling device **140** or **142** of FIG. 1. The controller **240** may be used to facilitate the control of multimedia applications, automation and others in a complex. In particular, the
15 controller **240** is configured to facilitate a selection of a plurality of audio sources available on the network, controlling operations of one or more zone players (e.g., the zone player **200**) through a RF interface corresponding to the RF interface **216** of FIG. 2A. According to one embodiment, the wireless means is based on an industry standard (e.g.,
20 infrared, radio, wireless standard IEEE 802.11a, 802.11b or 802.11g). When a particular audio source is being played in the zone player **200**, a picture, if there is any, associated with the audio source may be transmitted from the zone player **200** to the controller **240** for display. In one embodiment, the controller **240** is used to synchronize more than one
25 zone players by grouping the zone players in a group. In another

embodiment, the controller **240** is used to control the volume of each of the zone players in a zone group individually or together.

The user interface for the controller **240** includes a screen **242** (e.g., a LCD screen) and a set of functional buttons as follows: a “zones” button **244**, a “back” button **246**, a “music” button **248**, a scroll wheel **250**,
5 “ok” button **252**, a set of transport control buttons **254**, a mute button **262**, a volume up/down button **264**, a set of soft buttons **266** corresponding to the labels **268** displayed on the screen **242**.

The screen **242** displays various screen menus in response to a user's selection. In one embodiment, the “zones” button **244** activates a
10 zone management screen or “Zone Menu”, which is described in more details below. The “back” button **246** may lead to different actions depending on the current screen. In one embodiment, the “back” button triggers the current screen display to go back to a previous one. In
15 another embodiment, the “back” button negates the user's erroneous selection. The “music” button **248** activates a music menu, which allows the selection of an audio source (e.g., a song) to be added to a zone player's music queue for playback.

The scroll wheel **250** is used for selecting an item within a list,
20 whenever a list is presented on the screen **242**. When the items in the list are too many to be accommodated in one screen display, a scroll indicator such as a scroll bar or a scroll arrow is displayed beside the list. When the scroll indicator is displayed, a user may rotate the scroll wheel **250** to either choose a displayed item or display a hidden item in the list. The
25 “ok” button **252** is used to confirm the user selection on the screen **242**.

There are three transport buttons **254**, which are used to control the effect of the currently playing song. For example, the functions of the transport buttons may include play/pause and forward/rewind a song, move forward to a next song track, or move backward to a previous track.

5 According to one embodiment, pressing one of the volume control buttons such as the mute button **262** or the volume up/down button **264** activates a volume panel. In addition, there are three soft buttons **266** that can be activated in accordance with the labels **268** on the screen **242**. It can be understood that, in a multi-zone system, there may be multiple audio
10 sources being played respectively in more than one zone players. The music transport functions described herein shall apply selectively to one of the sources when a corresponding one of the zone players or zone groups is selected.

FIG. 2C illustrates an internal functional block diagram of an
15 exemplary controller **270**, which may correspond to the controller **240** of FIG. 2B. The screen **272** on the controller **270** may be a LCD screen. The screen **272** communicates with and is commanded by a screen driver **274** that is controlled by a microcontroller (e.g., a processor) **276**. The memory **282** may be loaded with one or more application modules **284** that can be
20 executed by the microcontroller **276** with or without a user input via the user interface **278** to achieve desired tasks. In one embodiment, an application module is configured to facilitate grouping a number of selected zone players into a zone group and synchronizing the zone players for one audio source. In another embodiment, an application
25 module is configured to control together the audio volumes of the zone players in a zone group. In operation, when the microcontroller **276**

executes one of the application modules **284**, the screen driver **274** generates control signals to drive the screen **272** to display an application specific user interface accordingly, more of which will be described below.

The controller **270** includes a network interface **280** referred to as
5 a RF interface **280** that facilitates wireless communication with a zone player via a corresponding RF interface thereof. In one embodiment, the commands such as volume control and audio playback synchronization are sent via the RF interfaces. In another embodiment, a saved zone group configuration is transmitted between a zone player and a controller
10 via the RF interfaces. The controller **270** may control one or more zone players, such as **102**, **104** and **106** of FIG. 1. Nevertheless, there may be more than one controllers, each preferably in a zone (e.g., a room) and configured to control any one and all of the zone players.

In one embodiment, a user creates a zone group including at least
15 two zone players from the controller **240** that sends signals or data to one of the zone players. As all the zone players are coupled on a network, the received signals in one zone players can cause other zone players in the group to be synchronized so that all the zone players in the group playback an identical audio source or a list of identical audio sources in a
20 timely synchronized manner. Similarly, when a user increases the audio volume of the group from the controller, the signals or data of increasing the audio volume for the group are sent to one of the zone players and causes other zone players in the group to be increased together in volume and in scale.

According to one implementation, an application module is loaded in memory **282** for zone group management. When a predetermined key (e.g. the “zones” button **244**) is activated on the controller **240**, the application module is executed in the microcontroller **276**. The input interface **278** coupled to and controlled by the microcontroller **276** receives inputs from a user. A “Zone Menu” is then displayed on the screen **272**. The user may start grouping zone players into a zone group by activating a “Link Zones” or “Add Zone” soft button, or de-grouping a zone group by activating an “Unlink Zones” or “Drop Zone” button. The detail of the zone group manipulation will be further discussed below.

As described above, the input interface **278** includes a number of function buttons as well as a screen graphical user interface. It should be pointed out that the controller **240** in FIG. 2B is not the only controlling device that may practice the present invention. Other devices that provide the equivalent control functions (e.g., a computing device, a hand-held device) may also be configured to practice the present invention. In the above description, unless otherwise specifically described, it is clear that keys or buttons are generally referred to as either the physical buttons or soft buttons, enabling a user to enter a command or data.

One mechanism for ‘joining’ zone players together for music playback is to link a number of zone players together to form a group. To link a number of zone players together, a user may manually link each zone player or room one after the other. For example, there is a multi-zone system that includes the following zones.

- Bathroom
- Bedroom

- Den
- Dining Room
- Family Room
- Foyer

5 If the user wishes to link 5 of the 6 zone players using the current mechanism, he/she must start with a single zone and then manually link each zone to that zone. This mechanism may be sometimes quite consuming.

10 According to one embodiment, a set of zones can be dynamically linked together using one command. Using what is referred to as a zone scene or scene, zones can be configured in a particular scene (e.g., morning, afternoon, or garden), where a predefined zone grouping and setting of attributes in for the grouping are determined.

15 For instance, a “Morning” zone scene/configuration command would link the Bedroom, Den and Dining Room together in one action. Without this single command, the user would need to manually and individually link each zone. FIG. 3 provides an illustration of one zone scene, where the left column shows the starting zone grouping – all zones are separate, the column on the right shows the effects of grouping the
20 zones to make a group of 3 zones.

 Expanding this idea further, the Zone Scene can be set to create multiple sets of linked zones. For example the “Morning Mode” scene would create 3 separate groups of zones, the downstairs zones would be linked together, the upstairs zones would be linked together in their own

group, and the outside zones (in this case the patio) would move into a group of its own.

Optionally, a system may be supplied with a command that links all zones in one step. This may be a simple form of a zone scene. In one embodiment that extends to more than just linking zones together. After linking the appropriate zones, a zone scene command could apply the following attributes:

1. Set volumes levels in each zones (each zone can have a different volume)
2. Mute/Unmute zones.
3. Select and play specific music in the zones.
4. Set the play mode of the music (Shuffle, Repeat, Shuffle-repeat)
5. Set the music playback equalization of each zone (bass treble) etc.

A further extension of this embodiment is to trigger a zone scene command as an alarm clock function. For instance the zone Scene is set to apply at 8:00am. It could link appropriate zones automatically, set specific music to play and then stop the music after a defined duration.

Annexed hereto is an Appendix A providing examples to teach and refer to various features, detailed designs, uses, advantages, configurations and characteristics in one embodiment of the present invention.

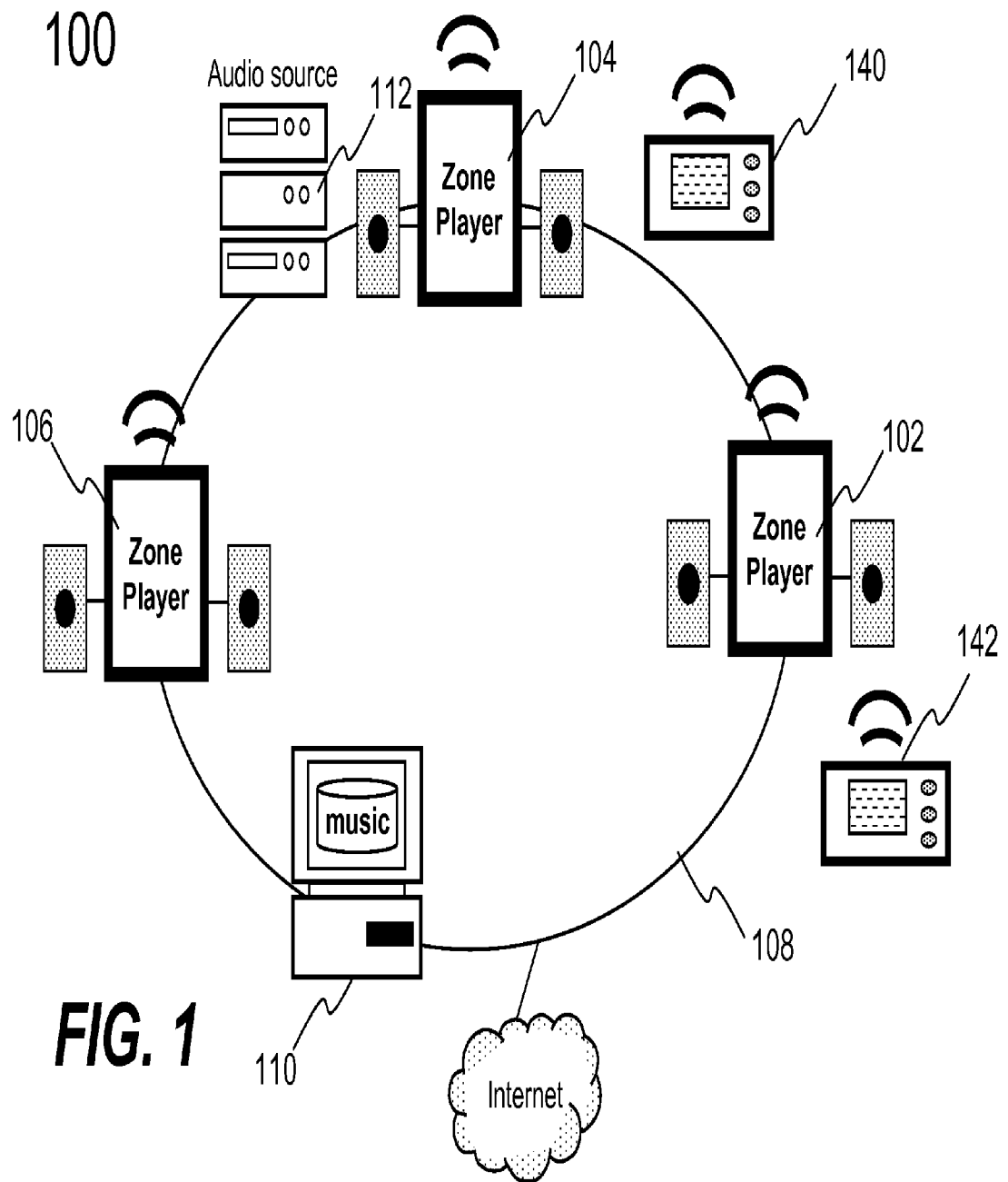
Annexed hereto is also an Appendix B providing examples to teach and refer to various features, detailed designs, uses, advantages,

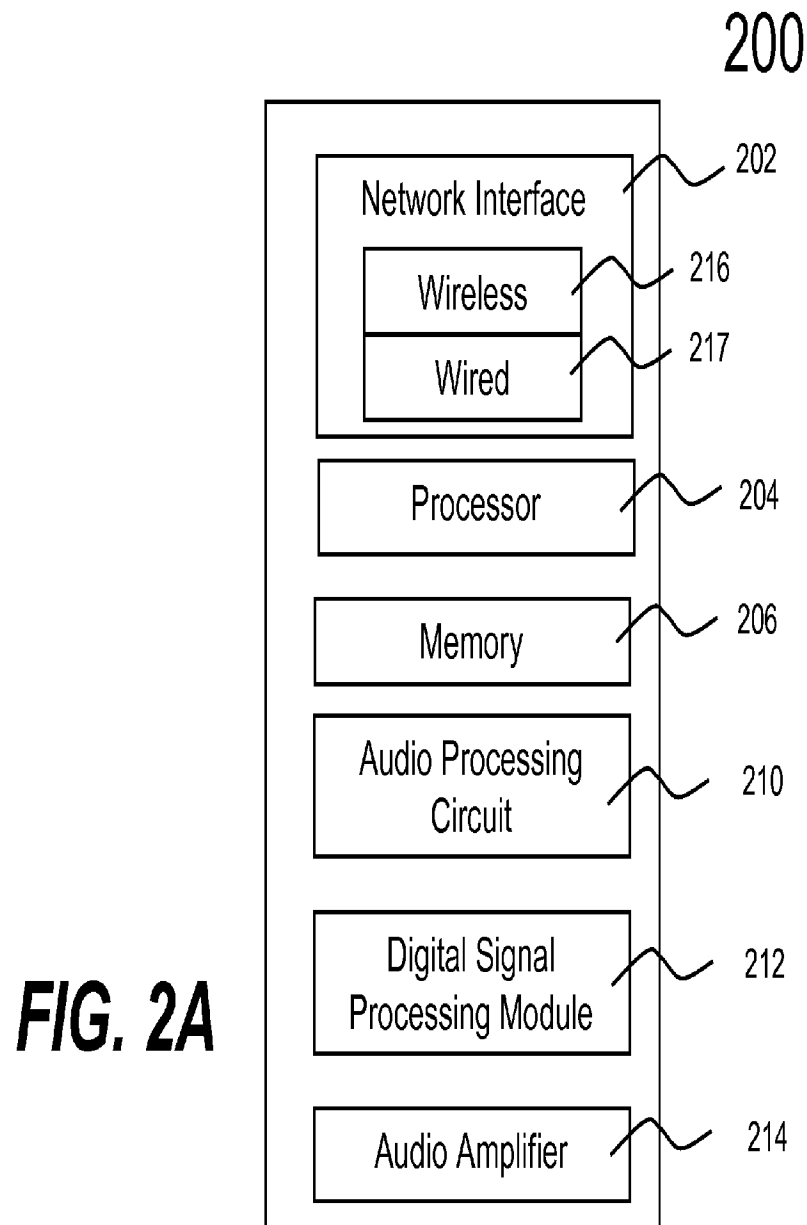
configurations and characteristics using clock in one embodiment of the present invention.

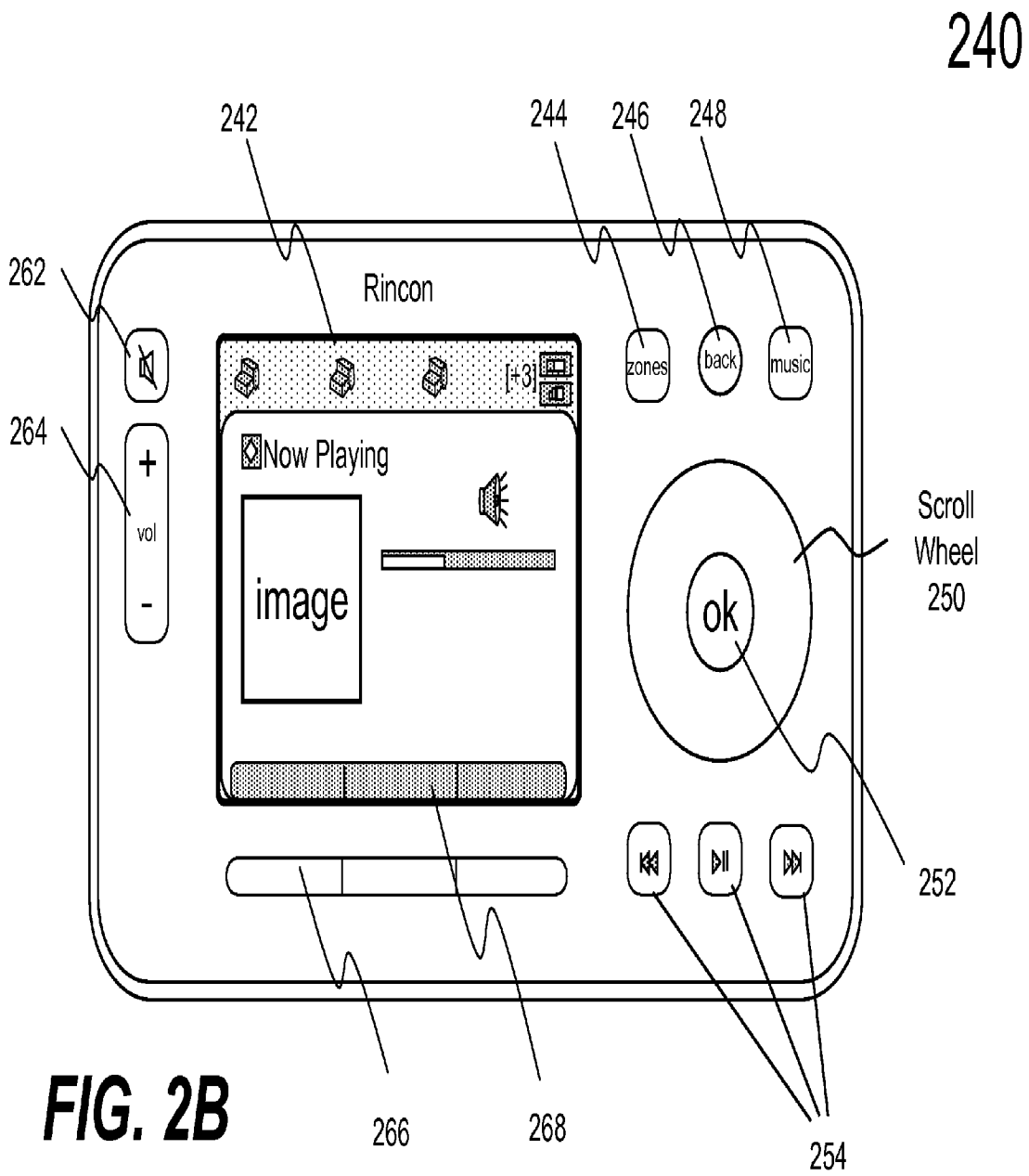
One of the features in the present invention is to allow sets of related devices (controllers and operating components) to exist as a group
5 without interfering with other components that are potentially visible on the same wired or wireless network.

The processes, sequences or steps and features discussed above and in the appendixes are related to each other and each is believed independently novel in the art. The disclosed processes and sequences
10 may be performed alone or in any combination to provide a novel and unobvious system or a portion of a system. It should be understood that the processes and sequences in combination yield an equally independently novel combination as well, even if combined in their broadest sense; i.e. with less than the specific manner in which each of
15 the processes or sequences has been reduced to practice in the attached appendix.

The forgoing and attached are illustrative of various aspects/embodiments of the present invention, the disclosure of specific sequence/steps and the inclusion of specifics with regard to broader
20 methods and systems are not intended to limit the scope of the invention which finds itself in the various permutations of the features disclosed and described herein as conveyed to one of skill in the art.







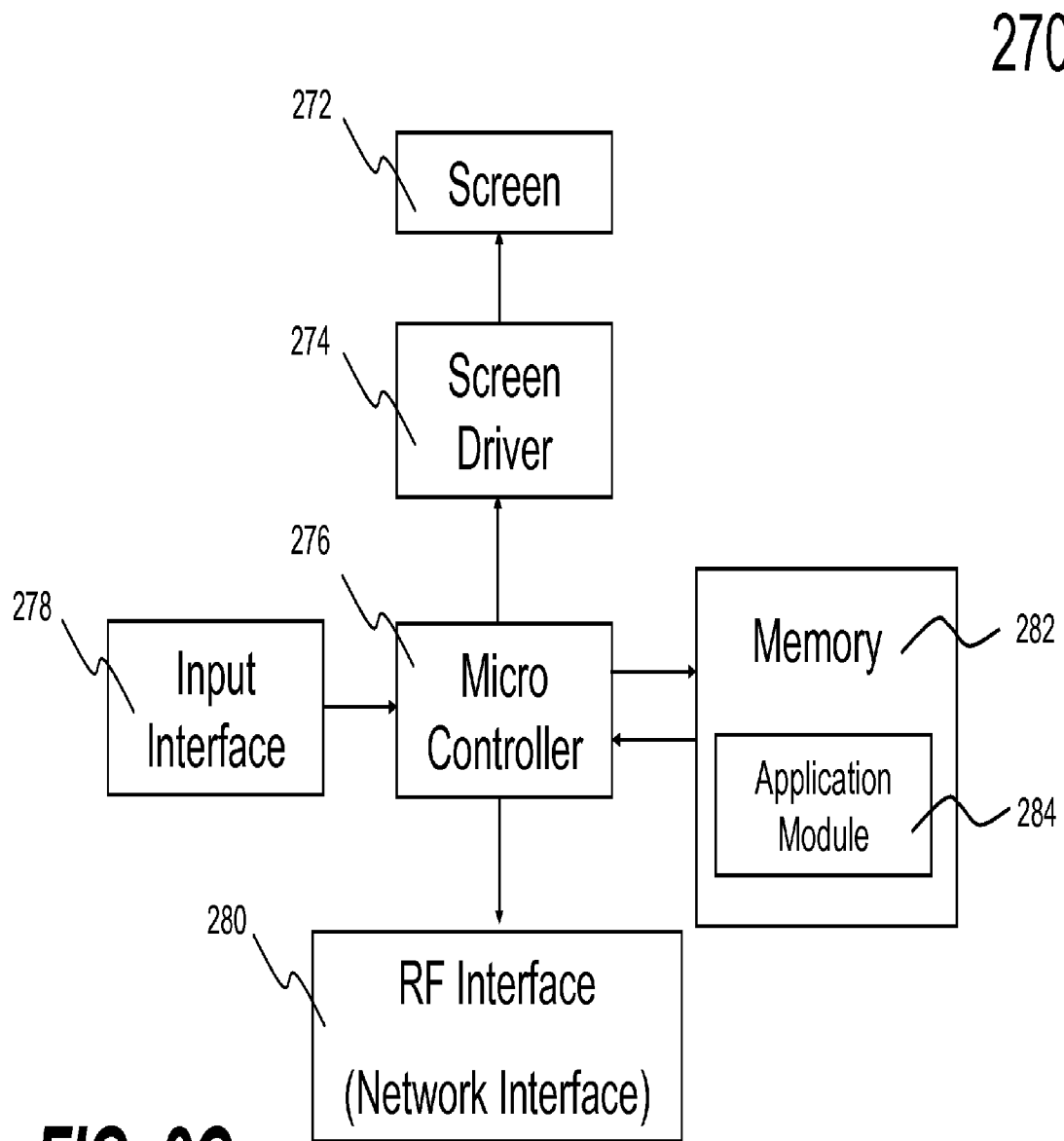


FIG. 2C

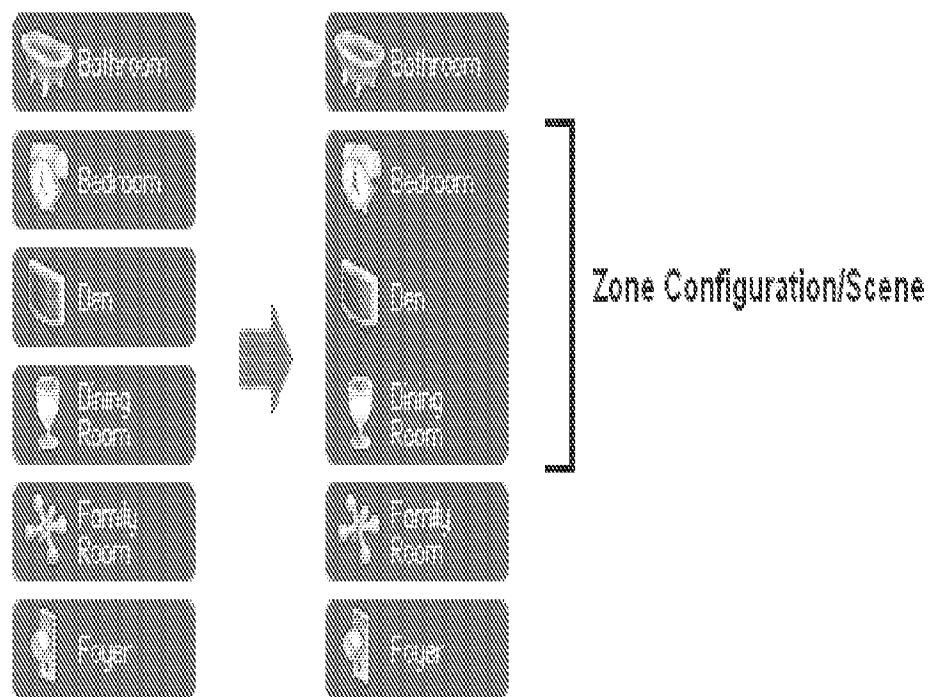


FIG. 3

Appendix A

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Sonos UI Specification: Zone Scenes

1 Introduction

The Zone Scene feature allows the user to arrange the zones into groups using one single command. However, the Zone Scene feature is much more flexible and powerful.

Currently in the Sonos UI, zone groups are created by manually linking zones one at a time until the desired zone grouping is reached.

For Example

Start with **Living Room**

- Link the Kitchen to the Living Room to make a group of (**Living Room + Kitchen**)
- Then link the Den to the (**Living Room + Kitchen**) to make a group of (**Living Room + Kitchen + Den**)

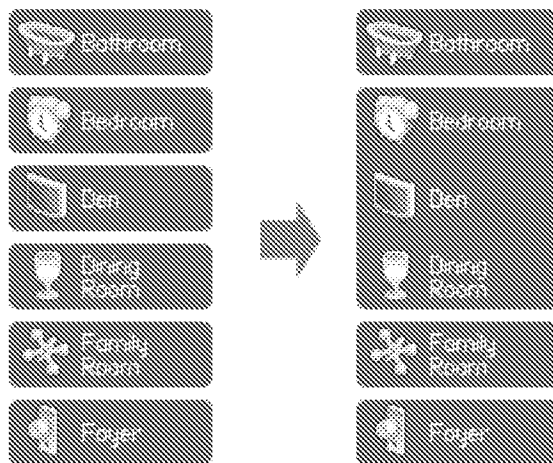
The Zone Scene feature would allow the user to create a group of (**Living Room + Kitchen + Den**) with one command.

1.1 Setting a Zone Scene**1.1.1 Simple Scenes**

Simple scenes allow the user to set up a single zone group per scene.

For example:

“Morning Scene” would group Bedroom + Den + Dining Room, but would leave all other zones in the house untouched.



Note: Zones do not need to be separated before the Scene is invoked.

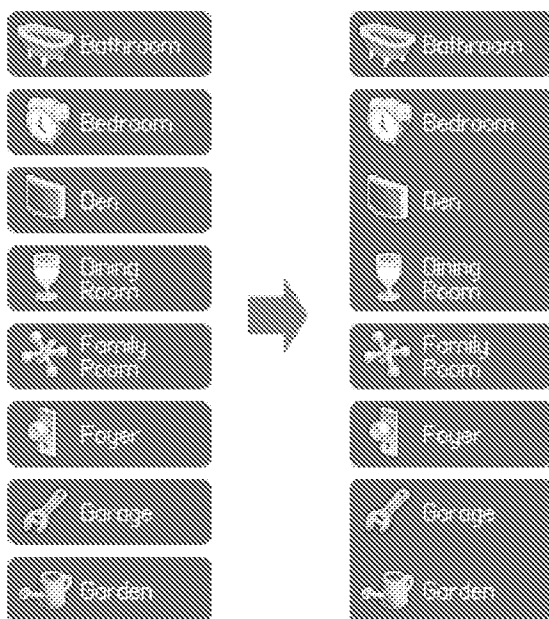
1.1.2 Advanced Scenes

Sonos UI Specification: Zone Scenes

User can define multiple groups to be gathered at the same time.

For example: “Evening Scene” should link the following zones

- **Group1**
 - Bedroom
 - Den
 - Dining Room
- **Group 2**
 - Garage
 - Garden
- **And finally**, Bathroom, Family Room and Foyer should be separated from any group if they were part of a group before the Zone Scene was invoked.



Note: Zones do not need to be separated before the Scene is invoked.

Sonos UI Specification: Zone Scenes

1.1.3 What happens to the Music that's already playing when a Zone Scene is started.

If no music is playing in any Zone – then the zones will simply link in a group.

If music is playing in one or more zones there are several possibilities (TBD)

1. The Music Queue in the zone group that was formed by the Zone Scene will be empty. In other words – the music will stop in any room that is part of the Zone Scene. This is the simplest solution, but may lead to frustration.
2. The user gets to choose from which of the 'joining' Queues the new zone group should play. This could be in the form of a dialog:

What should the new Zone Group play?

No Music

Track 1

Track 2

Radio Station A

Note that this method would only be useful (and possible) with simple Zone Scene grouping. With Advanced Zone Scene groupings, this dialog would become much too complicated.

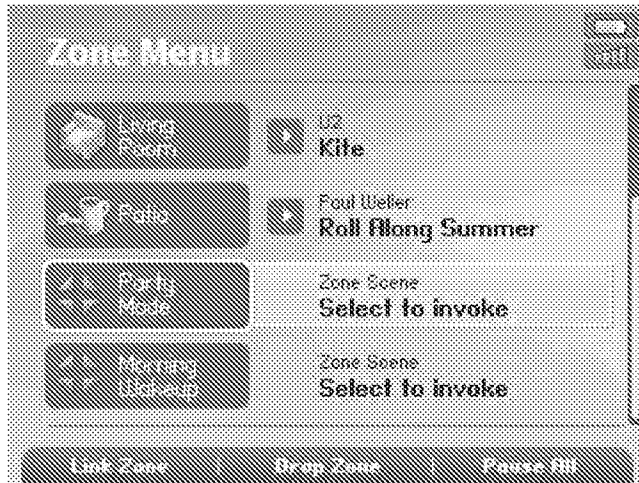
3. In the case where only one of the zones in the new group was playing music, the new group should take the music (and Queue) of that zone.

2 Invoking a Scene

There are various user Interface methods for invoking a configuration on a Handheld Controller or Desktop Controller

2.1 Handheld Controller

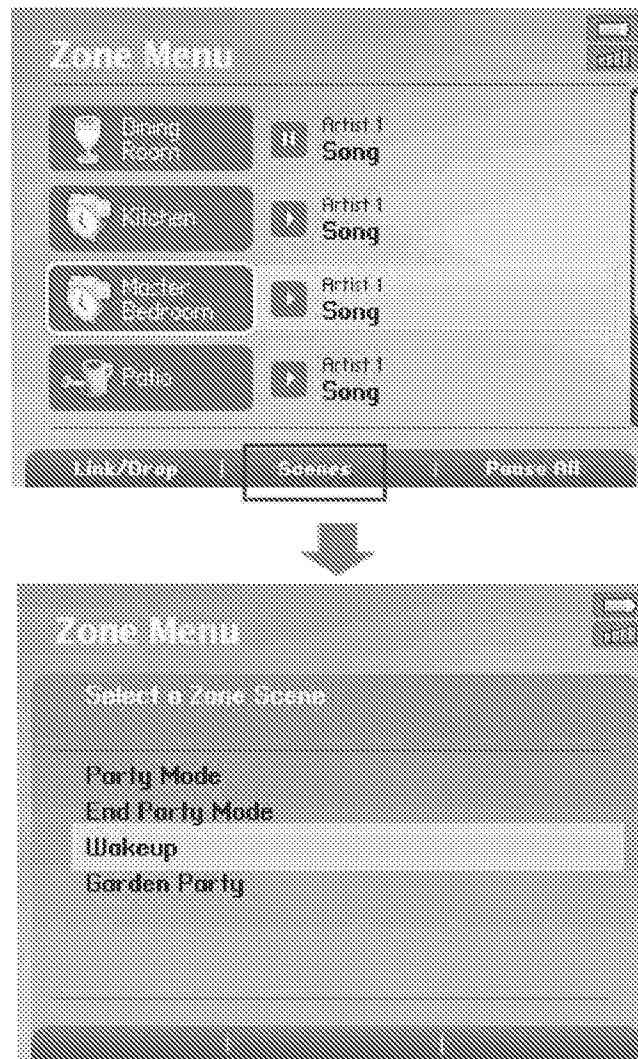
2.1.1 Method 1: Include Scenes in the Zone menu



Sonos UI Specification: Zone Scenes

2.1.2 Method 2: Zone Scenes as a soft button

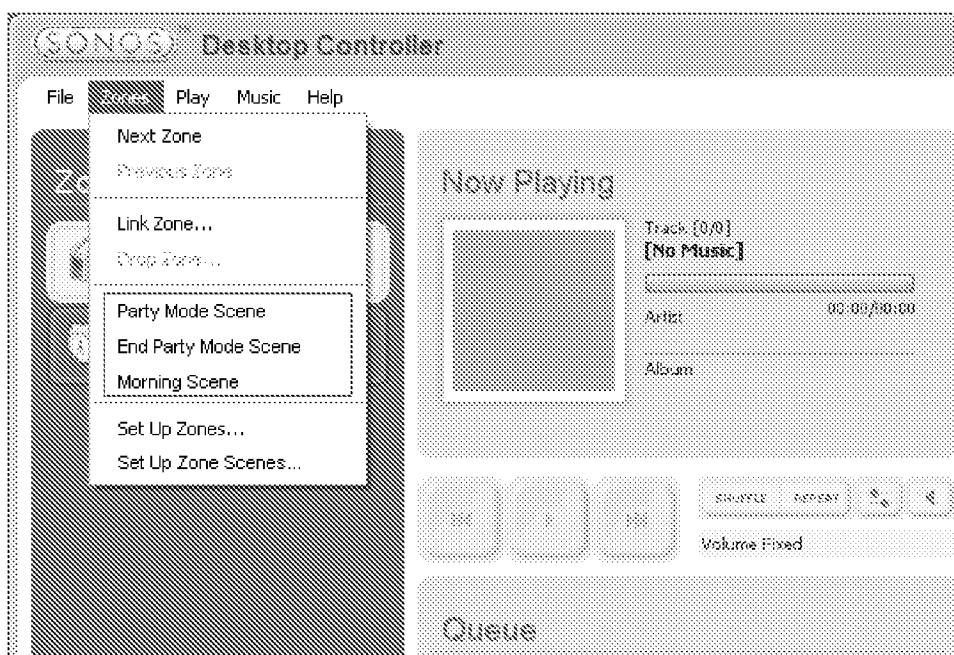
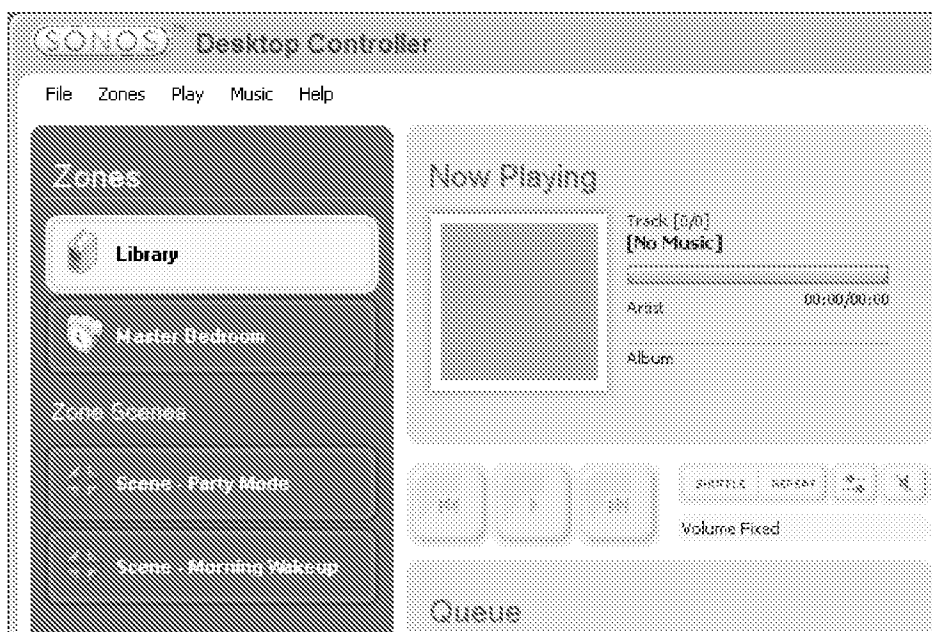
The Link/Drop Zone commands are placed under one softkey and the middle softkey now becomes “Scenes”. Pressing the scene softkey will show the Scene menu where all the available scenes are shown.



TBD: We could remove Pause All (and place it somewhere else. This would allow us to put Zone Scenes on the right soft button).

Sonos UI Specification: Zone Scenes

2.1.3 Method 3. Zone Scenes as part of “Link Zones” Dialog.

Sonos UI Specification: Zone Scenes**2.2 Desktop Controllers****2.2.1 Method 1: As part of 'Zones' application menu****2.2.2 Method 2: As part pf the Zones panel**

Sonos UI Specification: Zone Scenes

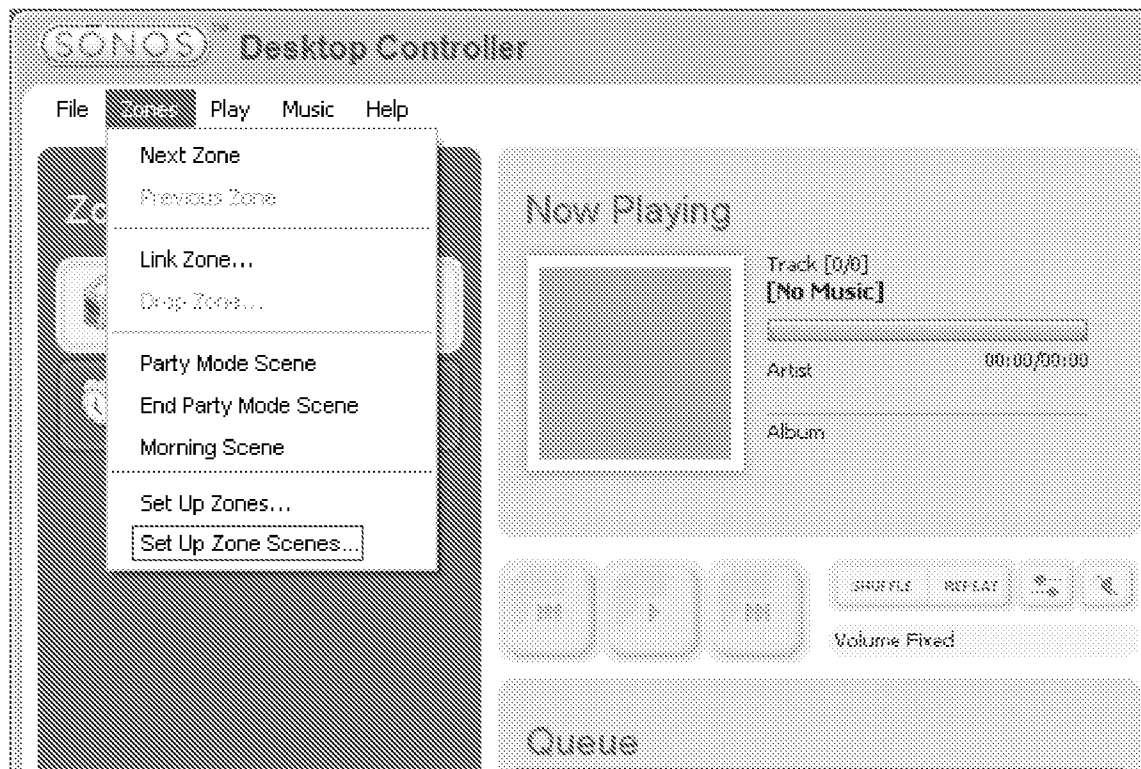
3 Scene Setup

3.1 Handheld Controller

It is not expected that the Zone Scenes should be set up using the Handheld Controller

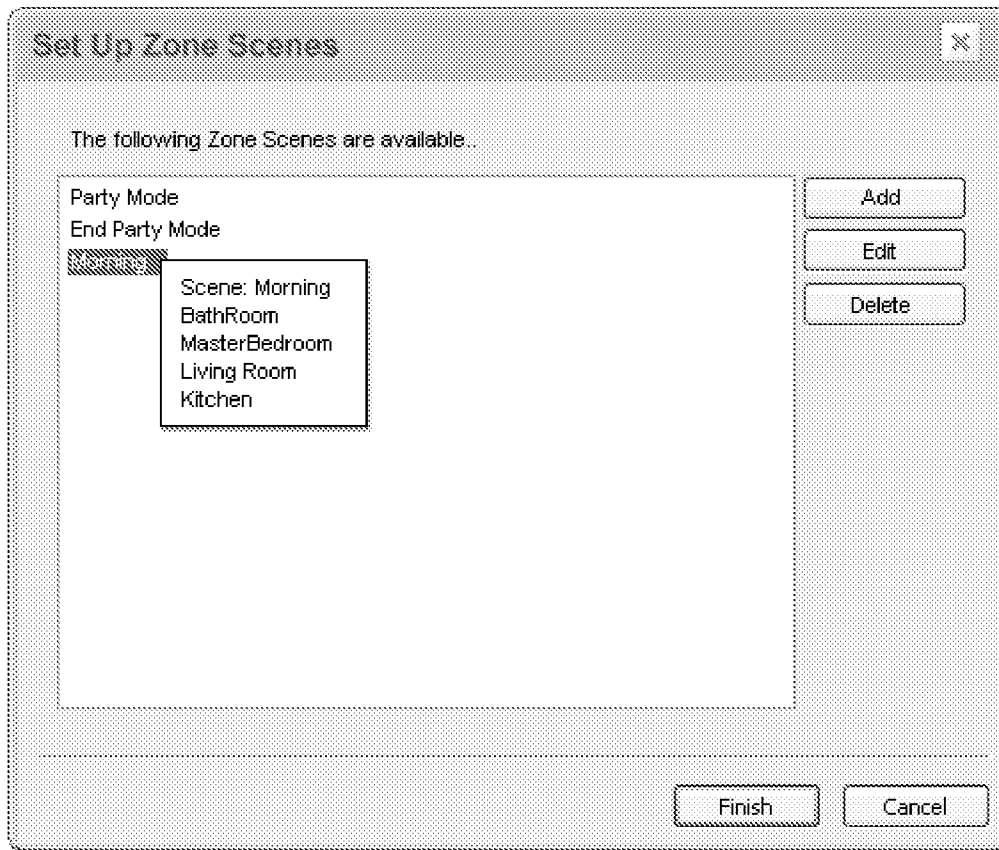
3.2 Desktop Controllers

Zone Scene Setup is available from the Zones menu on the DCRs.



“Set Up Zone Scenes...” is available from the Zones menu.

Sonos UI Specification: Zone Scenes

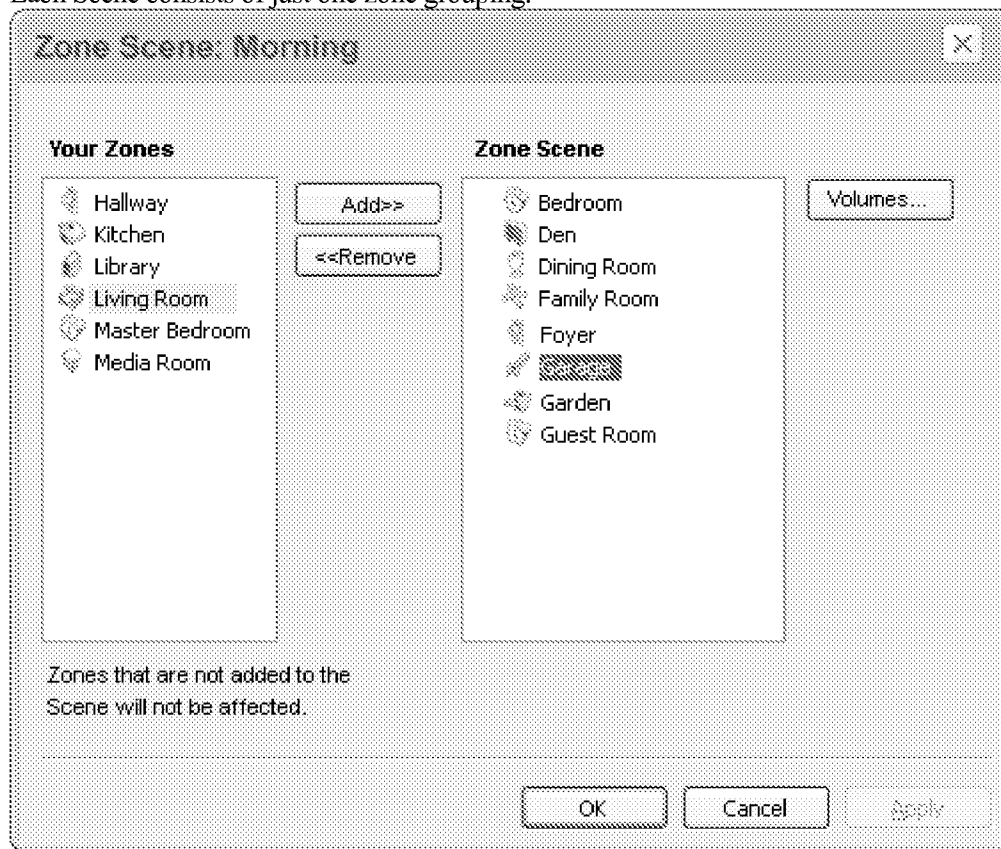


- Zone Scenes can be Add, Edited or Deleted
- The tool tip shows an overview of the zones that make up a scene

Sonos UI Specification: Zone Scenes

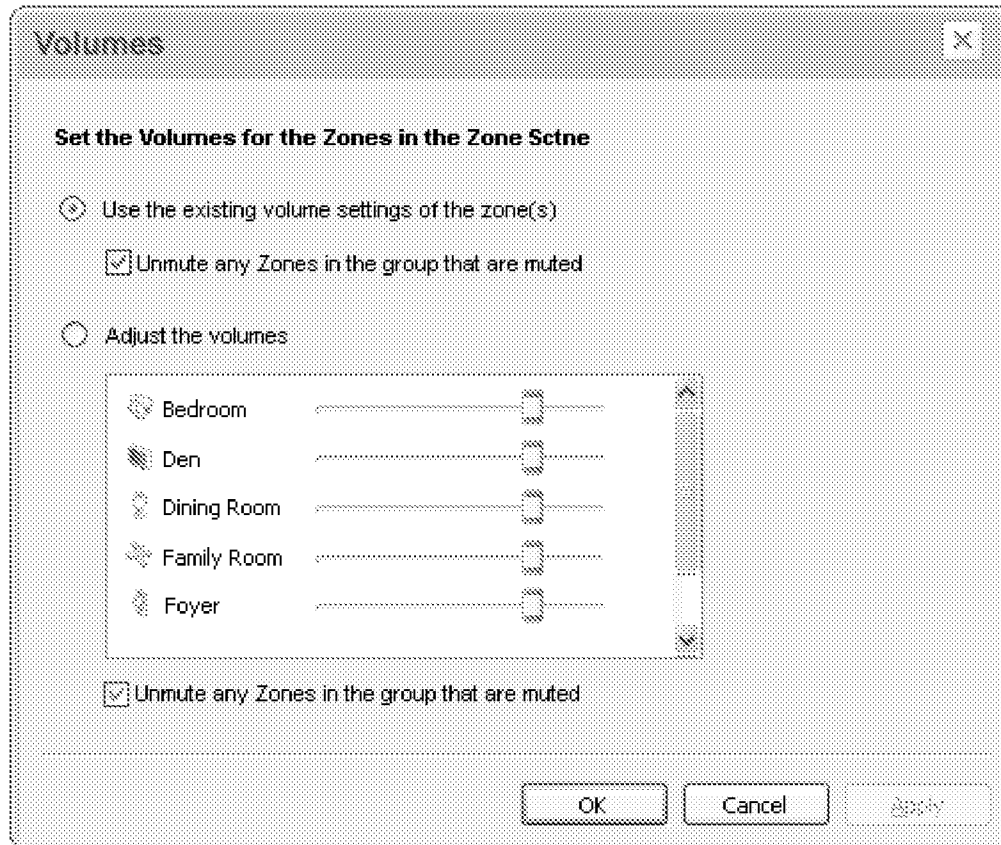
3.2.1 Simple Scenes

Each Scene consists of just one zone grouping.



- The panel on the left shows the available zones in the household.
- The panel on the right shows the Zones that will be grouped as part of this scene.
- The Add/Remove buttons move zones between the panels.
- Zones can be dragged between panels.
- The Zones that are not part of this scene will remain unaffected by the scene.

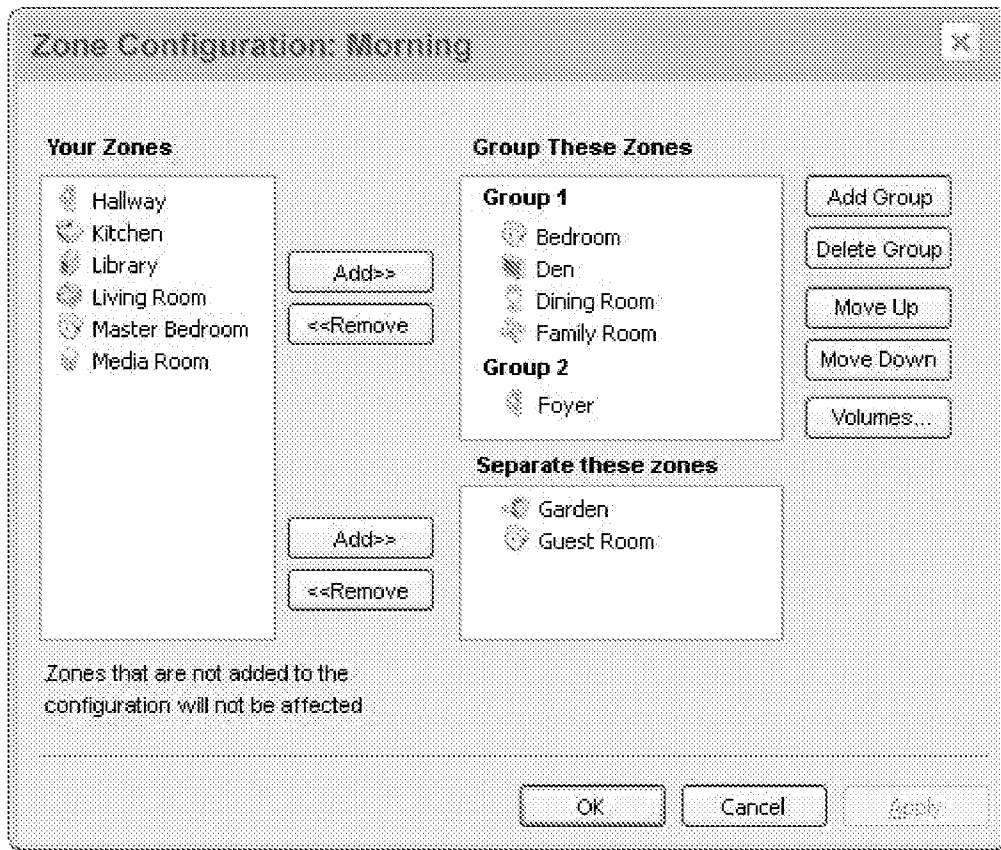
Volumes



- The 'Volumes...' button allows the user to affect the volumes of the zones when a Zone Scene is invoked.
- The Zones can be set to retain whatever volume that they currently have when the Scene is invoked.
- Additionally the user can decide of Volumes should be unmuted when the Scene is invoked.
- Alternatively, the user can define the Volume of each zone in the Zone Scene.

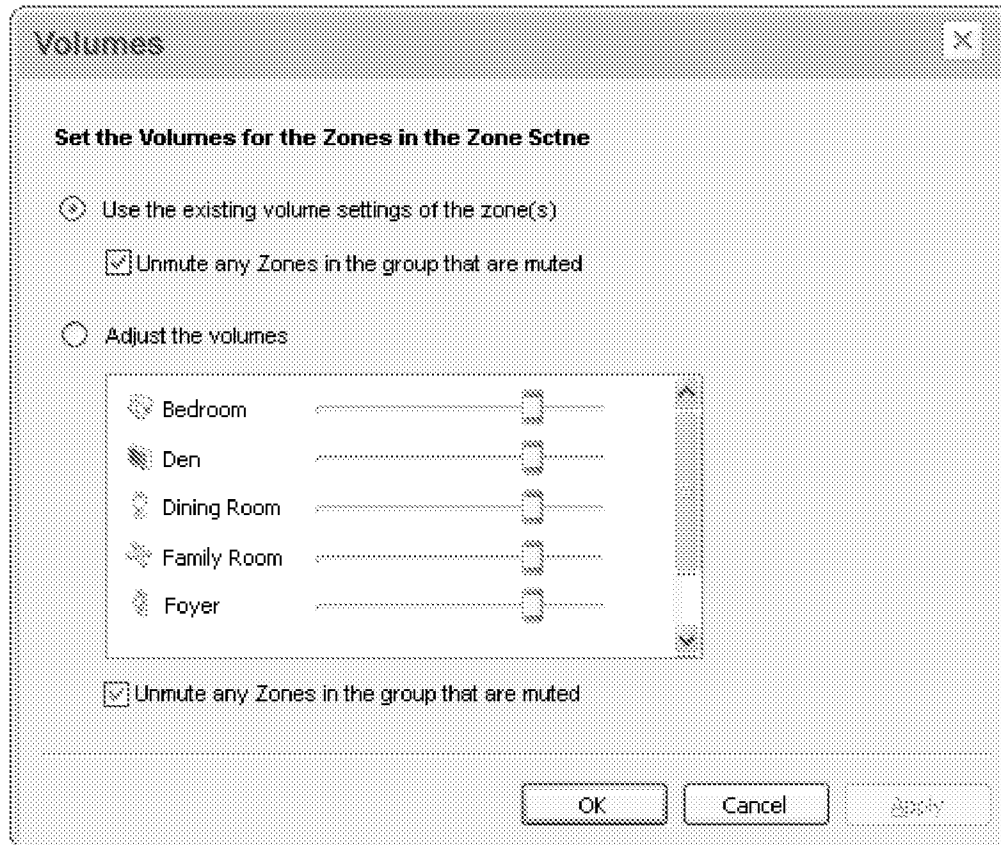
3.2.2 Simple Scene (each scene makes one zone group)

Each Scene can consist of multiple groupings. In addition zones can be separated if they were part of a group before the scene was invoked.

Sonos UI Specification: Zone Scenes

- Left panel shows the available zones in a system
- The upper right panel shows the zones that will be grouped as part of this configuration.
 - Multiple groups can be created with the “Add Group” button
 - Groups can be deleted using the “Delete Group” button
 - Zones can be moved between groups
- The lower right panel shows the zones that will be actively separated when the scene is invoked (if they were part of any before).
- Zones can be moved from the left panel to either of the right panels using the “Add” buttons, or through drag and drop/
- Likewise, zones can be moved from either of the right side panels to the left panel using the “Remove” buttons, or through drag and drop.

Sonos UI Specification: Zone Scenes

Volumes

- The ‘Volumes...’ button allows the user to affect the volumes of the zones when a Zone Scene is invoked.
- The Zones can be set to retain whatever volume that they currently have when the Scene is invoked.
- Additionally the user can decide of Volumes should be unmuted when the Scene is invoked.
- Alternatively, the user can define the Volume of each zone in the Zone Scene.

3.3 Additional setup ideas

Capture a Zone Scene from an existing setup in the Zone Menu. Right click on a current Zone group and have a menu item “Make this group a Scene”.

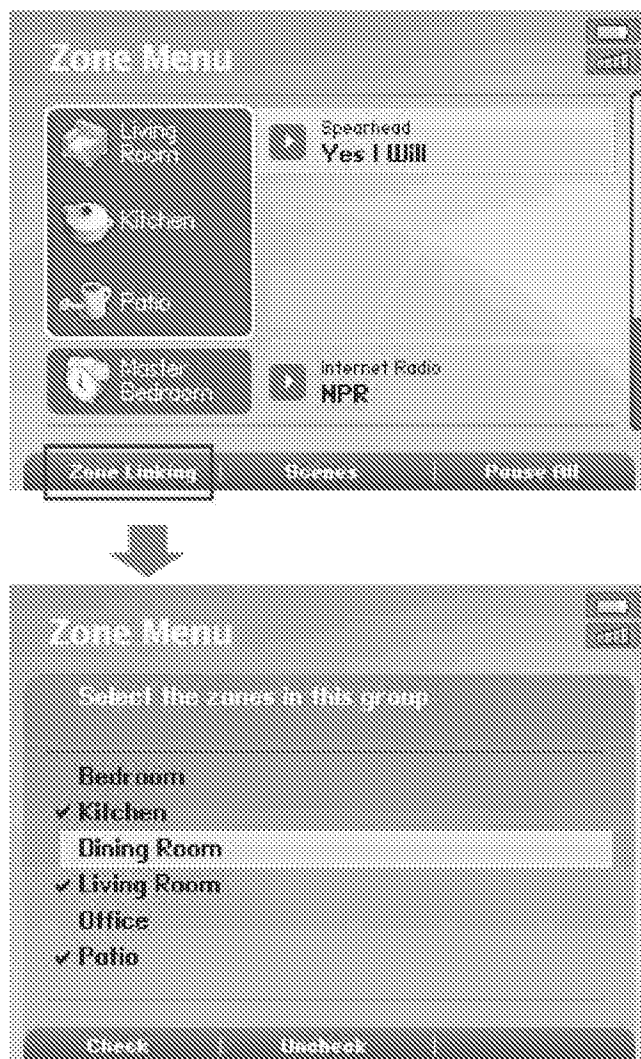
4 Alternative Linking Methods

4.1 Multiple Select in Link and Drop Zone panels

This feature is an adaptation of the Link and Drop Zone feature.

Currently, as discussed in the introduction of this document, the current Link and Drop Zones features allow the user to link and drop Zones one at a time. This feature would allow the user to link and drop multiple zones in one screen.

Using this methodology, the action Link and Drop zones can be achieved on one screen. In addition, because of the flexibility of this UI, Music can easily be moved from one zone to another.



- The list of zones in the screen above includes ALL the zones in the system, including the Zones that are already grouped.

Sonos UI Specification: Zone Scenes

- User can check Zones that will be part of a zone group, and uncheck those that won't be part of a group
- Using this method it is possible to move music from one zone to another. For example, to move the music from the Living Room to the Kitchen
 - User is playing 'Radio 1' in the Living Room only
 - From the Zone Menu, press the Zone Linking soft button
 - Check the Kitchen, uncheck the Living Room
 - Hit the OK button
 - Result – Radio 1 is now playing in the Kitchen and not the Living Room (without interrupting the music).

5 Related Ideas

5.1 Zone Scenes that play music

In addition to the notion of Zone Scenes that contain information about Zone Groups and the Volumes of individual Zones in a group. It is also possible to extend the idea to enable specific music to be played when a particular Zone Scene is invoked:

For instance.

Wakeup Zone Scene should link Living Room and Bedroom, set their volumes and play “Wakeup Music” playlist (or a Radio station)

5.2 Relationship to the Alarm Clock

The Sonos Alarm Clock/Music Scheduler allows a user to setup a Sonos system to play music in certain zones at certain times of the day.

In addition it is possible that an alarm clock can also invoke a Zone Scene.

For example. In a system with 4 Zones: Bedroom, Bathroom, Dining Room, Kitchen.

At the end of the day the user has all of the Zones linked into one group.

He has an alarm clock that is set to play National Public Radio at 7am and the alarm should play in the Bedroom and Bathroom, but not the Dining Room and Kitchen.

The Alarm is thus configured to invoke a Zone Scene that links the Bedroom and Bathroom into a group, but leaves the Dining Room and Kitchen out of the group.

Sonos UI Specification: Zone Scenes

5.3 Compress Zones in the Zone Menu

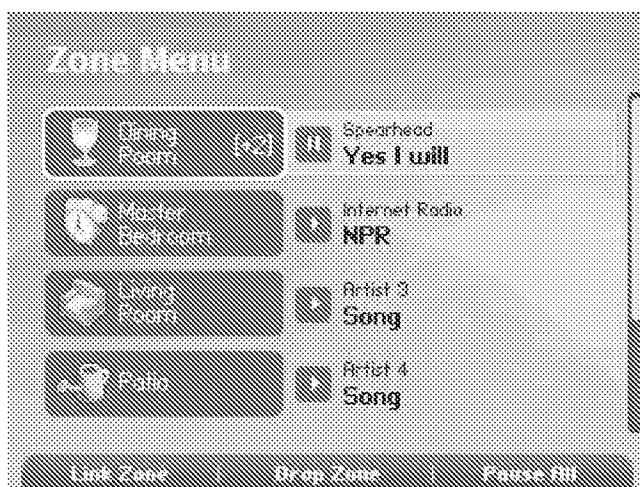
This concept is aimed at households that have more than a few ZonePlayers.

Current Design.



Zone Groups are shown linked together in a gray box. This is a good design for household with fewer than, say, 8 Zones. With more Zones however, a lot of scrolling is required to navigate between zones.

The design below shows how grouped zones are compressed so that they occupy a single item in the Zone Menu. The [+n] signifies the additional number zones that make up the group.



The individual zones in a group WILL show in the Zone bar on the Now playing Screen and Music Browse, as well as the link and unlink screens.

Appendix B

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Sonos UI Specification: Alarm Clock

1 To Do Items

1.1.1 To Do

- Graphic Design for clock face – may need PixelMedia input
- Tone for backup buzzer to be designed
- Scenarios for backup buzzer

1.1.2 TBD items

- Should the low brightness clock face move around the screen as a screen saver (repositioned every once in a while (not sliding around))
- Add play mode (shuffle/repeat)
- Default settings for a new alarm
- Can the DCR sleep timer count in the menu change with time, or does it need to be fixed.
- Should time and date settings fields change if the user has 12/24 hour clock etc.
- Rhapsody and Current Queue as music choices for an alarm.
- DCR state when time is lost (due to power failure)

Sonos UI Specification: Alarm Clock

2 Requirements

2.1 Need

Regular requests from users to provide the following:

- Ability to schedule music to wake to.
- Ability to schedule music at other times. For example, “I want to hear music when I come home from work at 6pm”
- Ability to fall asleep playing music, and for the music to play for a defined period (Sleep Timer)
- Ability to replace their current alarm clock with a large clock view on the Controller.

2.2 General rules for the alarm**2.2.1 Zones**

- A single zone can be assigned to an alarm. When the alarm sounds, it will sound in that zone + any zones are linked to the alarm zone at the time of the alarm

2.2.2 Volume ramp

- Alarms will ramp from 0 to the zone’s set volume level in 60 seconds (exact time TBD)

2.2.3 Backup Buzzer

If, for any reason, the scheduled music won’t play (empty playlist, no connection to a share, failed UPnP, no Internet connection for an Internet Radio station), a backup buzzer will sound. This buzzer will be a sound file that is stored in ZPs –not on a share (for obvious reasons).

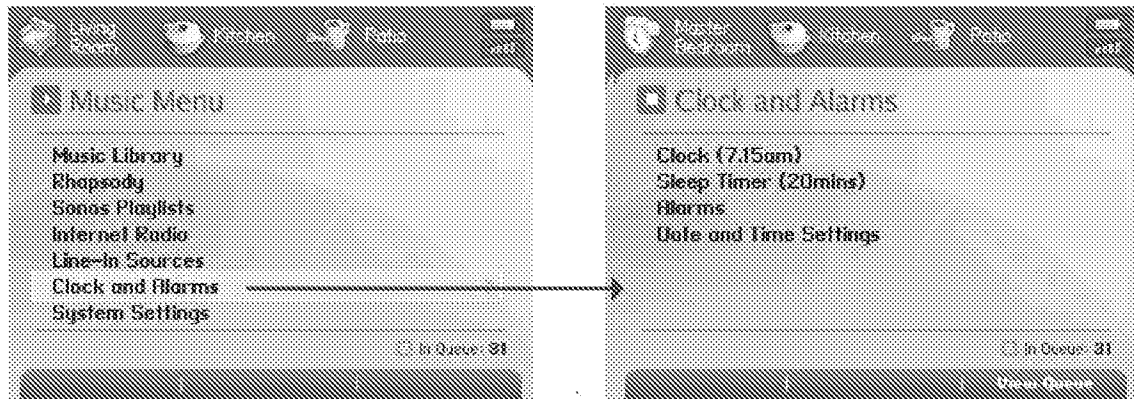
The buzzer sound will be designed for Sonos and will fit the Sonos brand

Sonos UI Specification: Alarm Clock

3 UI Spec for Handheld CR

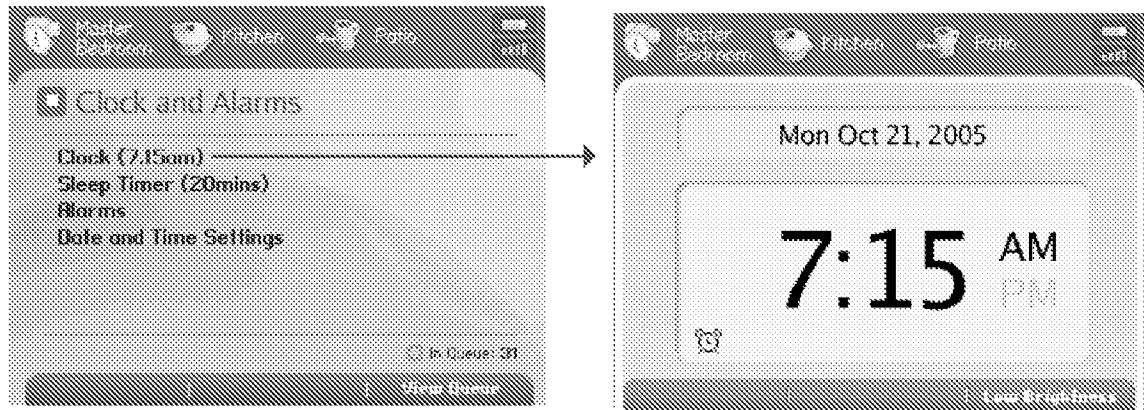
3.1 Clocks and Alarms Menu


- The Clocks and Alarms section of the UI can be found on the Music Menu above System Settings



- The time in parenthesis after the “Show Clock” item should be updated with the current system time.
- The time in the parenthesis should be removed if the system has no time set (because the time was never set properly, or a connection to the Internet time has been lost and the ZP power-recycled)

Sonos UI Specification: Alarm Clock

3.2 Show Clock Screen

- The clock is zone-group contextual.
- Press OK on this screen returns the user to the Clock menu (same behavior as a pop-up).
- Press Back on this screen returns the user to the Clock menu (same behavior as a pop-up).
- The clock icon  indicates that one or more alarms are set for this zone group.
- Unlinking a zone, may affect the presence of the alarm icon.
- The 'low brightness' softkey brings up a version of this screen shown below.

3.2.1 Low Brightness mode

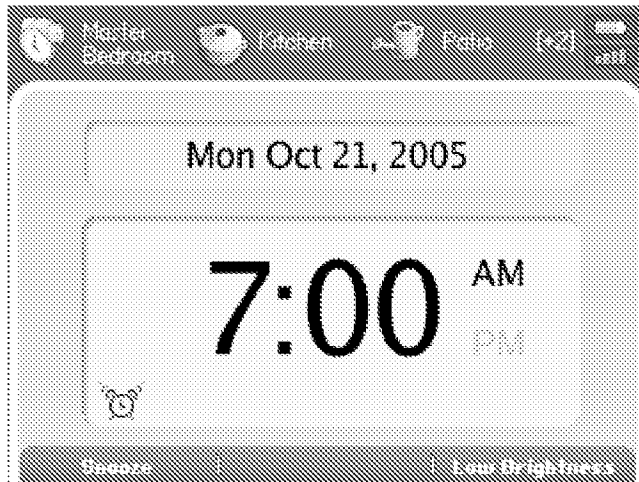
- When the user presses the “Low Brightness” soft button, the screen brightness will be reduced to 25%. The user setting in the CR settings will not be affected.
- Pressing any button will return the screen to the user-set brightness.
- When an alarm goes in that zone/group, the contrast will return the screen to the user-set brightness.

Sonos UI Specification: Alarm Clock

3.3 Alarm Plays**Clock Screen**

- The clock icon shows if there is at least one alarm in the ON state for one or more of the zones that the CR is currently viewing (in this case Master Bedroom, Kitchen, Dining Room).
- If no alarms are present, in the ON state, for the zone or zones that the CR is viewing, the icon will be removed.
- Note the case where an alarm is set to “Once” - when the alarm is complete (see duration and snooze rules below) the icon will be removed (as long as there are no further alarms set for zones in this group).

Sonos UI Specification: Alarm Clock

Alarm Plays

The clock icon changes to its “active state” (the sound waves).
The snooze softkey appears.

The Snooze and the active clock icon will be displayed:

- For the duration of the Alarm, up to a maximum of 2 hours (if the user has set the duration to ‘no limit’, the snooze and active clock will show for 2 hours only).
- AND as long as music is playing in that Zone Group. If the music is stopped, the snooze button and active state clock icon are cleared from the UI
- ‘Stopped music’ can be achieved though:
 - Play/pause button
 - Clear Queue
 - Music Queue ends (runs out of music)
 - Technical reason for music stopping (lost connection etc.)

The Snooze button and active clock icon can be passed around zones using link/unlink in the same way as the alarm duration.

Snooze operation

- Pressing the snooze button will cause the alarm to play again 9 minutes later (the actual Alarm settings are not changed).
- Pressing the snooze button again during the ‘snoozing period’ (the silent period), will offset the alarm by 9 minutes from that point.
- Multiple presses of the snooze button will not accumulate snooze time (9+9+9=27 minutes snooze).
- During the 9 minute snooze period, a ‘snoozing’ icon will show on the screen
- During the 9 minute snooze period, the clock icon will continue to show its ‘active clock’ state.
- During the 9 minute snooze period, the Snooze softkey will continue to show.
- If the music is stopped (see rules above) – the snooze state will be cleared (removing the Snoozing icon and Snooze button).

Sonos UI Specification: Alarm Clock



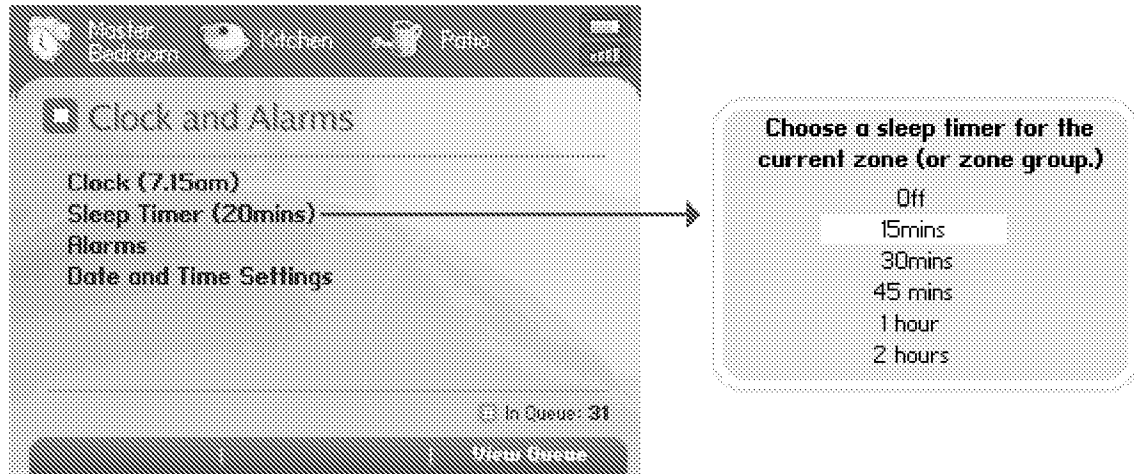
Other items

If another alarm plays for a zone in this group – all the original alarm and snooze states are cleared.

Low Brightness

Same rules apply as described above

Sonos UI Specification: Alarm Clock

3.4 Sleep Timer

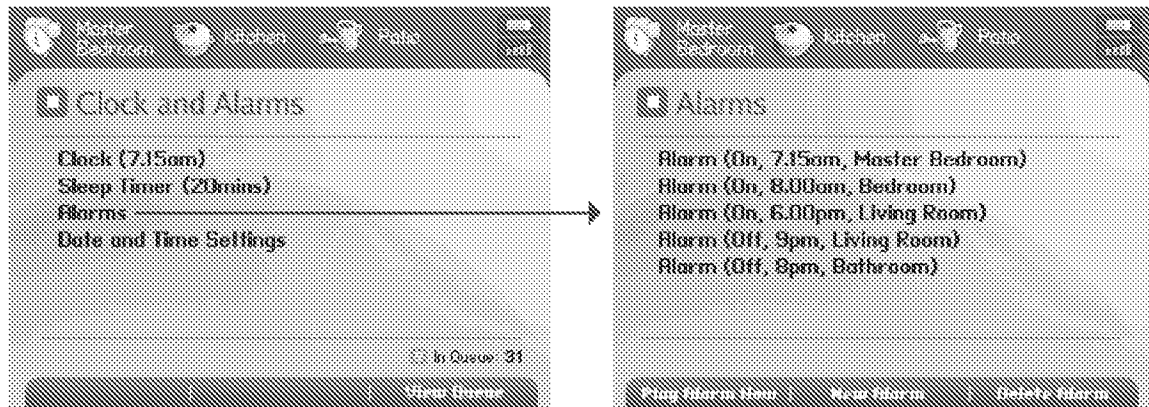
- Sleep timer will have the following variables: Off, 15min, 30mins, 45mins, 1hours, 2 hours.
- A sleep timer applies to all the current zones in the current group
- When the sleep timer stops (i.e. the time reaches 0 seconds), it should revert to 'Off'.
- At the end of the sleep time (0 seconds), the current Zone Group should be Paused.
- The time in parenthesis should show the count down.
- If the current zone group is already paused, no changes to the play head will be made.
- (the alarm timer is the same as the sleep time, described later in this document)

Rules for Zone Group changes while the Sleep timer is active

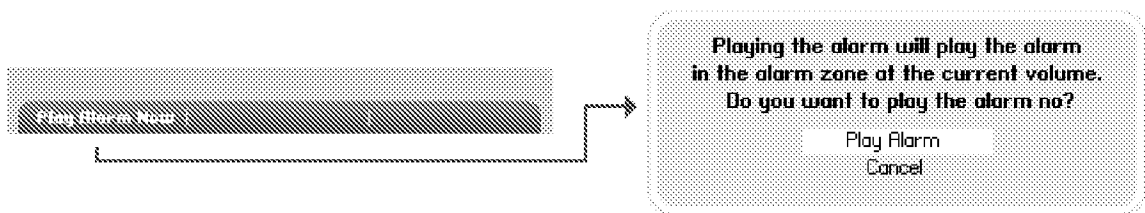
- A Sleep timer is set for the current zone (or zone group) that the user is viewing on the CR. The timer is applied to all the zones in that particular group.
- Any zone added to the zone group takes on the same timer.
- Any zone dropped from the group will have it's timer reset to Off.
- Any zone taken by another group will take the timer of the group it is joining (i.e. it will lose it's original timer).
- Pausing the music has no effect on a sleep timer .
- Clearing the Queue has no effect on a sleep time .
- Altering the Queue (adding, moving, deleting tracks) has no effect on the sleep timer
- The user can change the timer settings while it is running (i.e. turn it off, or change the sleep time).

Sonos UI Specification: Alarm Clock**Alarm length/Sleep timer icon on Now Playing Screen**

- The sleep timer icon is shown next to the Shuffle and Repeat icons
- The right edge of the snooze icon aligns with the right edge of the track progress bar
- The separation between the icons is 5 clear pixels
- The blue Rhapsody Radio ‘bubble’ should be horizontally resized when the snooze icon is present.
- The gap between the right edge of the blue bubble and the left edge of the snooze icon should be 5 clear pixels.
- The snooze icon should sit vertically in the middle of the blue bubble (5 pixels above, 5 below).

Sonos UI Specification: Alarm Clock**3.5 Alarms Overview**

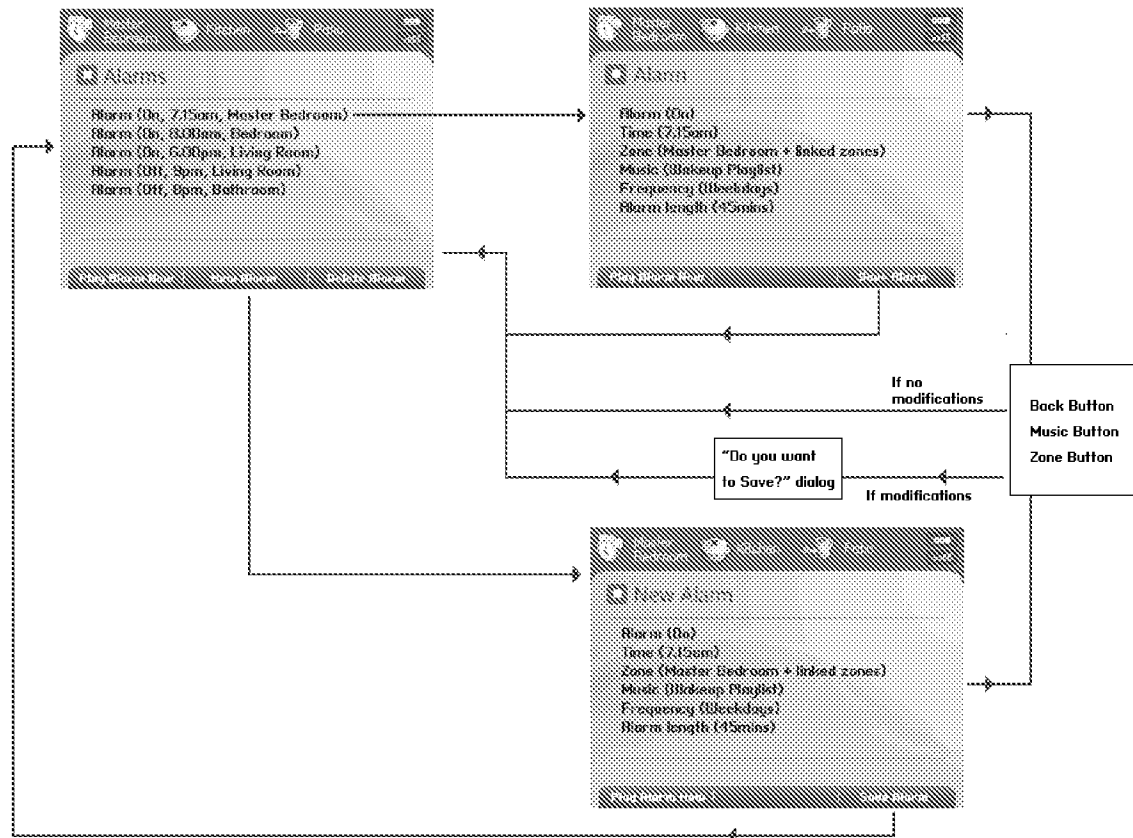
Note the absence of the View Queue and Queue Counter when we go one level deeper in the alarm UI. This is to reduce any confusion that may occur between the Alarm music and the Current Queue of music.

Play Alarm Now soft button

User selects 'Play Alarm' from the pop-up. The alarm will activate.

- The UI will stay on the same screen (but without the popup)
- TBD – this may change if alarms automatically trigger the clock view

3.6 New Alarm and Editing an existing alarm



New Alarm

- Adds a new alarm with the default settings
- The screen navigates to show the new alarm page.
- The system can contain up to 32 alarms
- If the limits of 32 alarms is reached, add alarm will trigger the following popup message (the UI will not navigate to the “New Alarm” page).
 - You can’t add any more alarms, please delete an alarm before you add a new one.
 - Press Ok to Continue.
- The default settings for an alarm are described in the section below.

Edit Alarm

Clicking OK on an existing alarm will navigate the UI to that alarm’s edit page.

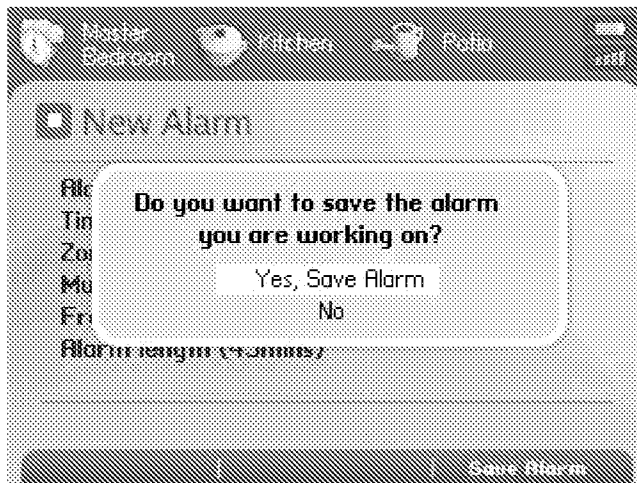
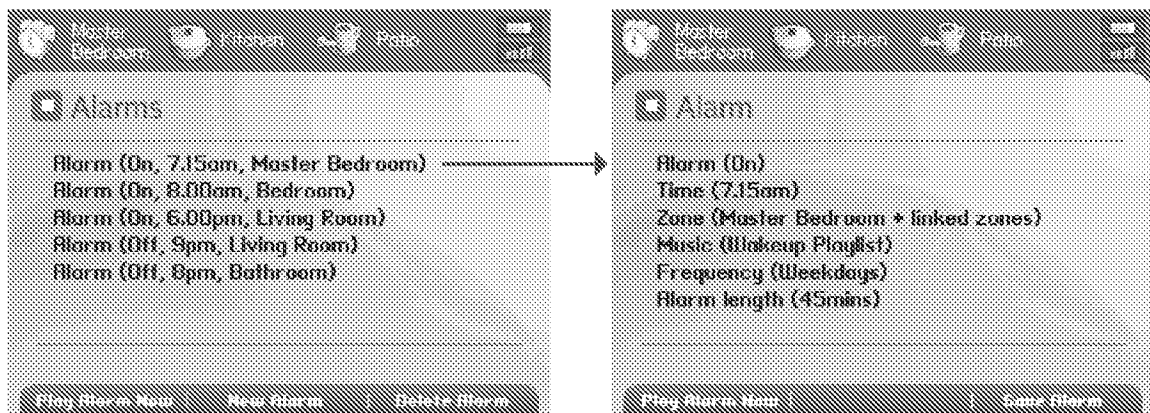
Save Alarm

Pressing the Save button will save the alarm and navigate to the Alarms List screen
No confirmation will be shown (Save is an explicit action that doesn’t result in deleted information if pressed by mistake).

Sonos UI Specification: Alarm Clock**Navigating Away from the New/Edit Alarm page**

If an alarm has been edited, or the alarm is new and the following navigation buttons are pressed, a resultant confirmation box will be shown.

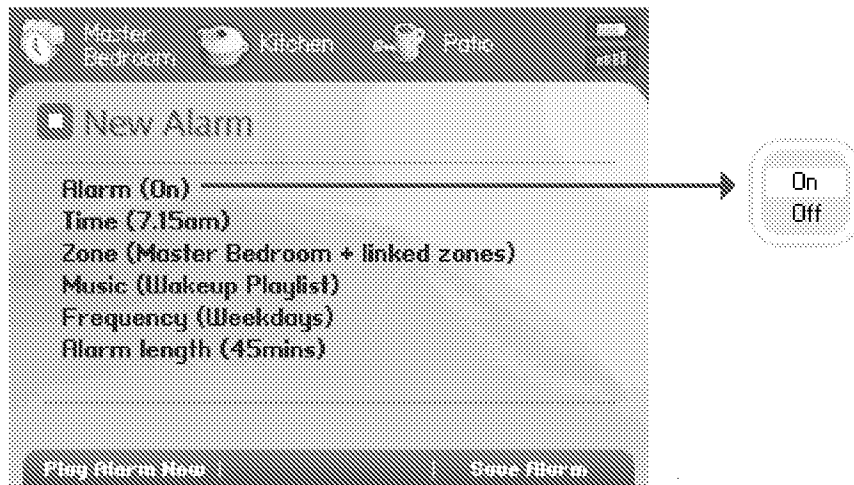
Back button
Zones button
Music button

**3.7 Alarm Settings/Variables**

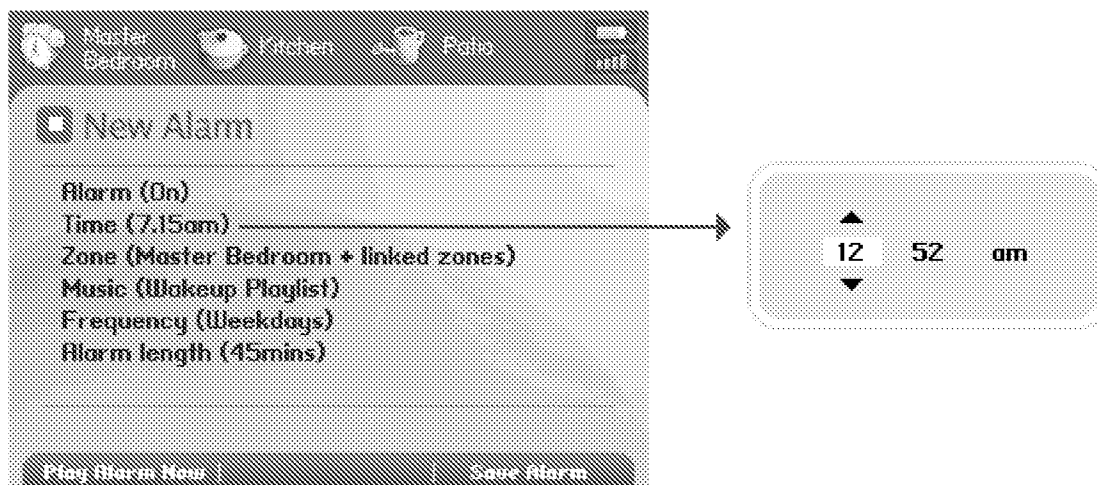
Each alarm will have the following variables

- Alarm On/Off
- Time
- Zone
- Music
- Frequency [once]
- Alarm Length
- *Play Mode (TBD we may add shuffle mode as an option)*

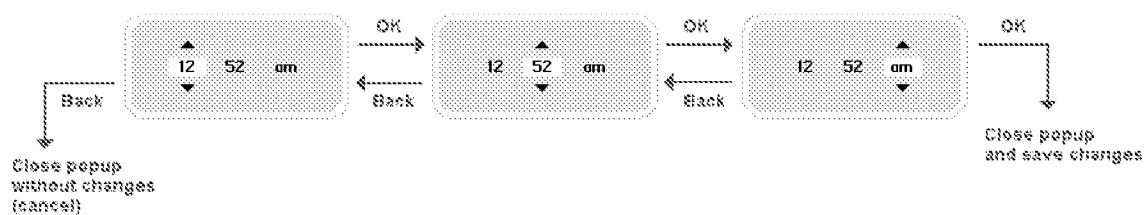
Sonos UI Specification: Alarm Clock

3.7.1 Alarm on/off

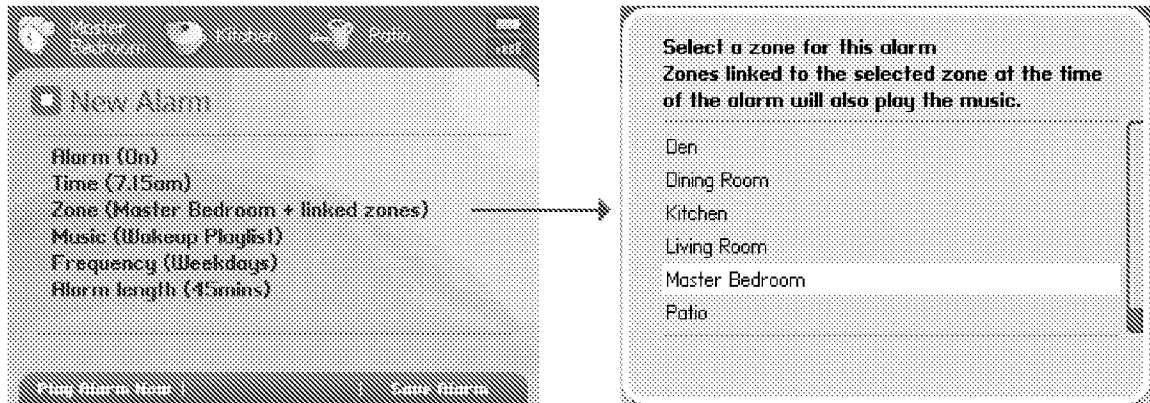
This allows the alarm to be turned on/off without losing the alarm settings.

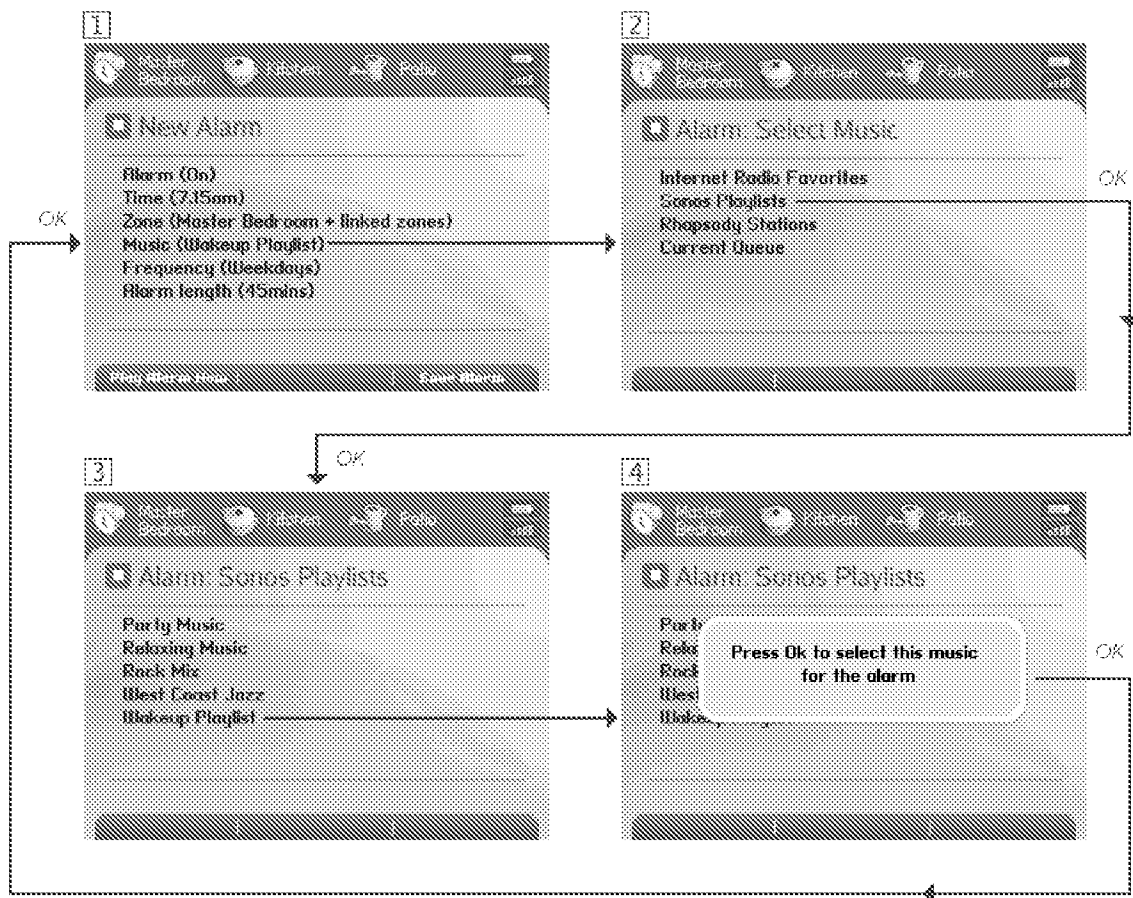
Sonos UI Specification: Alarm Clock**3.7.2 Alarm Time**

- The time set popup consists of three fields
- TBD – should the 3 fields become 2 if the user has set the system to 24 hour clock?



Sonos UI Specification: Alarm Clock

3.7.3 Alarm Zone

Sonos UI Specification: Alarm Clock**3.7.4 Alarm Music**

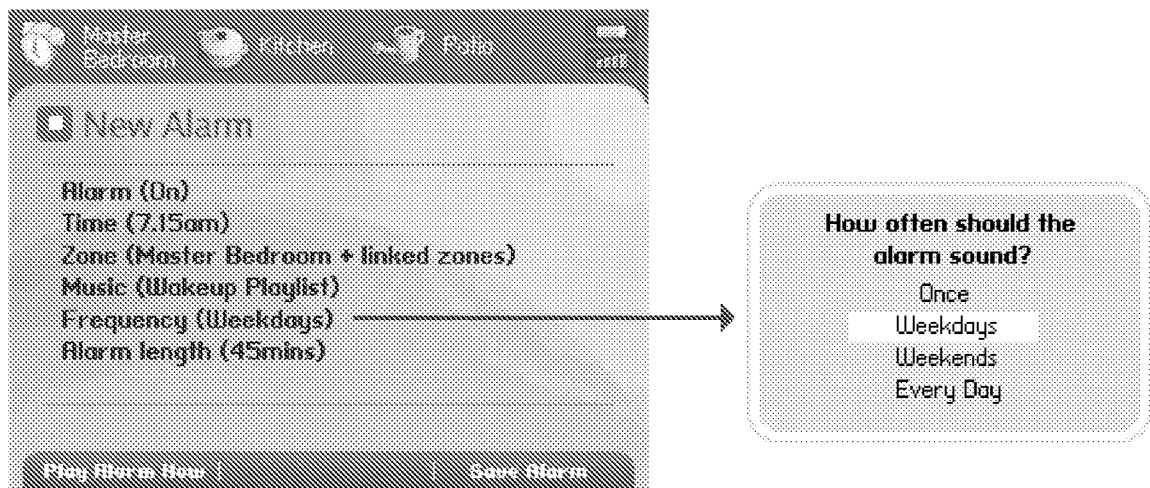
- The Select Music UI is a limited form of the regular CR music browse
- The user should not be able to drill down to the track level
- On the level *above* the track level, if the user presses OK, they will see the confirmation dialog.
- When the user press OK on the confirmation dialog, the UI should return to the main Alarm variables page (top left of above diagram). This transition is made without an animation.
- Rhapsody Stations and Current Queue are TBD items

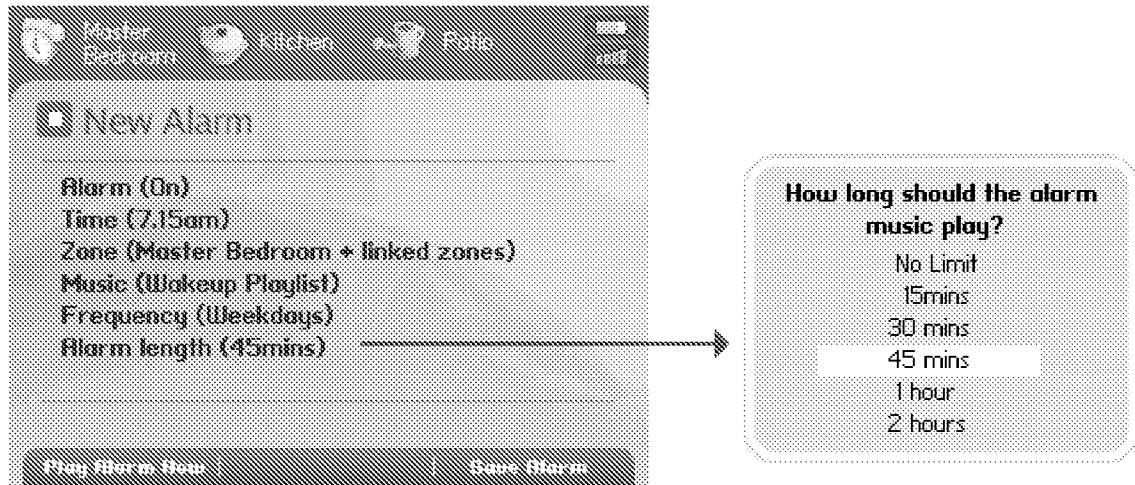
Relationship to the Now Playing Screen and Back Button.

If the user presses the Music button while on the alarm screens, the UI will navigate to the Now Playing screen.

If the user navigates to the Now Playing screen from screens 2, 3 or 4 (above), and subsequently press the Back button, the UI should navigate back to screen 1 (and not 2, 3, or 4). This is designed to avoid confusion between the Music choices for the alarm and music choices for general playback.

Sonos UI Specification: Alarm Clock

3.7.5 Alarm Frequency

Sonos UI Specification: Alarm Clock**3.7.6 Alarm Length**

- The 'No Limit' option means that no alarm timer will be set
- The alarm timer is the same as the sleep timer.
- When an alarm with a timer (anything other than 'no limit') starts, the sleep timer for the zone (or zone group) is triggered.
- Users can override the alarm timer by setting the sleep timer.

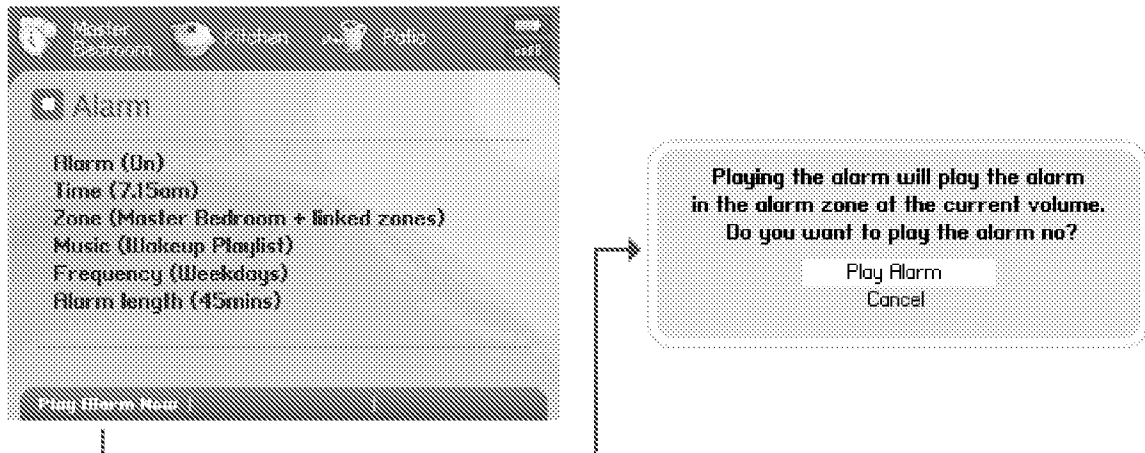
Zone linking/unlinking activities

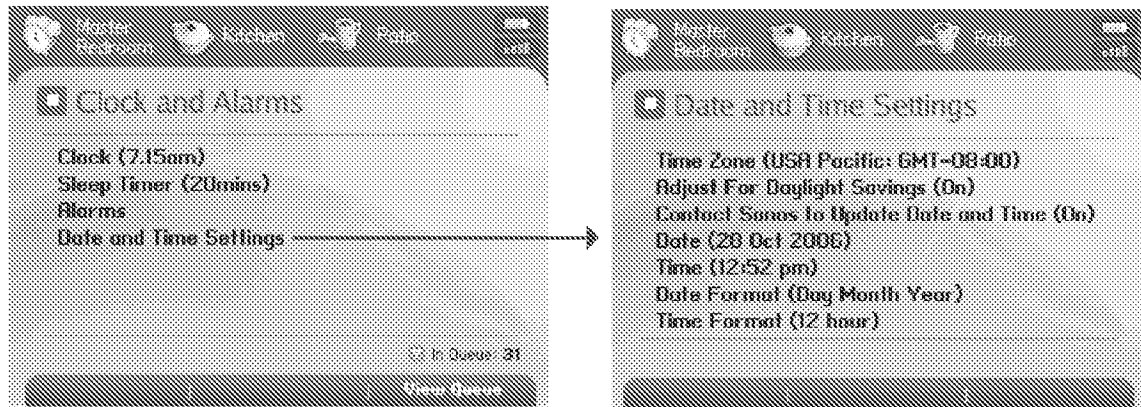
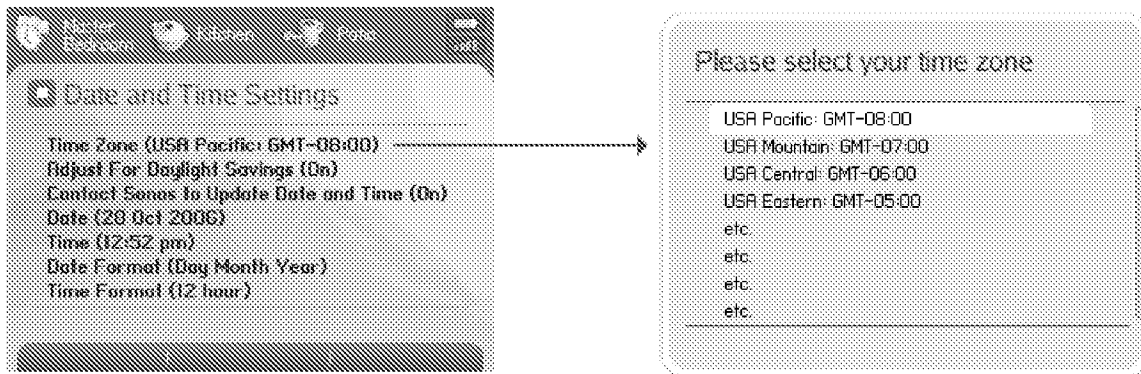
- The alarm length applies to the zone group at the time the alarm is triggered (zone + any linked zones)
- Any zone later added to the group will take on the timer from this alarm.
- Any zone dropped from the group will no longer take part in the alarm length timer.
- Any zone from this group taken by another group will take the timer of the group it is joining (i.e. it will lose it's original timer).
- Pausing the music has no effect on the alarm length timer .
- Clearing the Queue has no effect on a sleep timer .
- Altering the Queue (adding, moving, deleting tracks) has no effect on the sleep timer

Sonos UI Specification: Alarm Clock

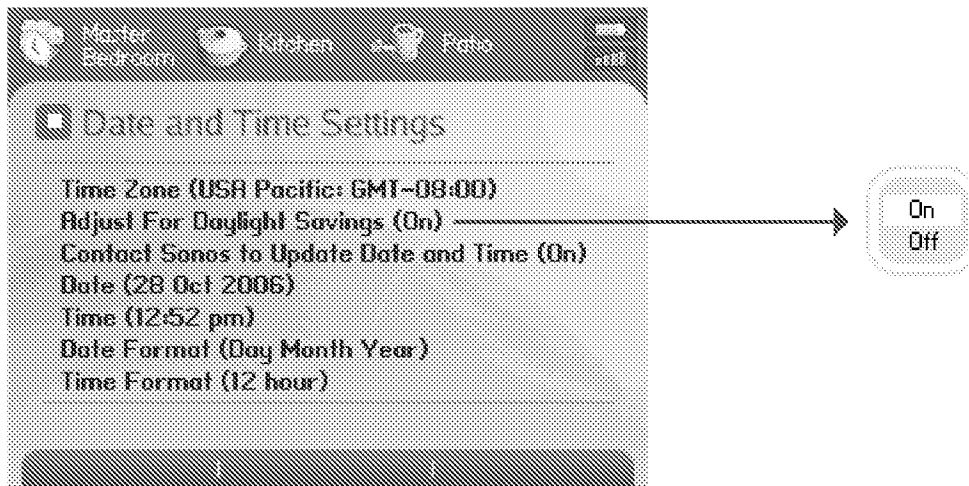
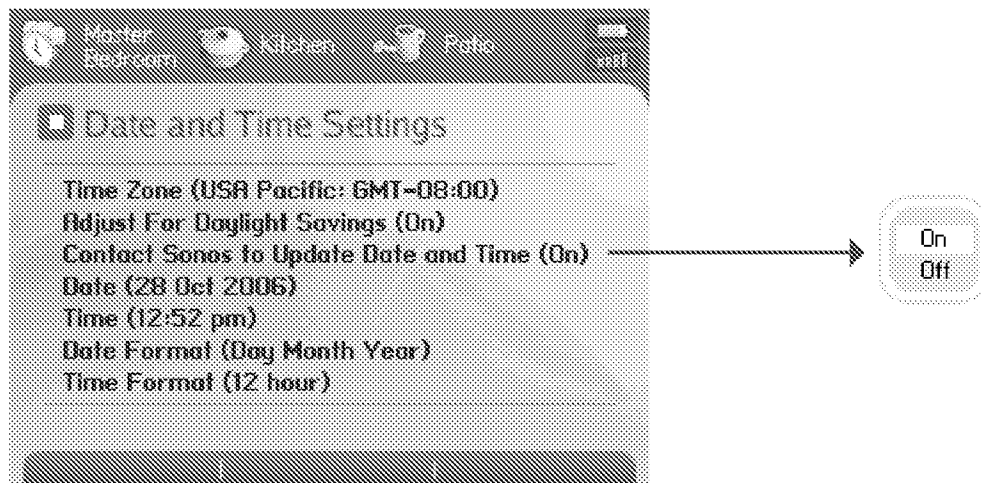
Alarm length/Sleep timer icon on Now Playing Screen

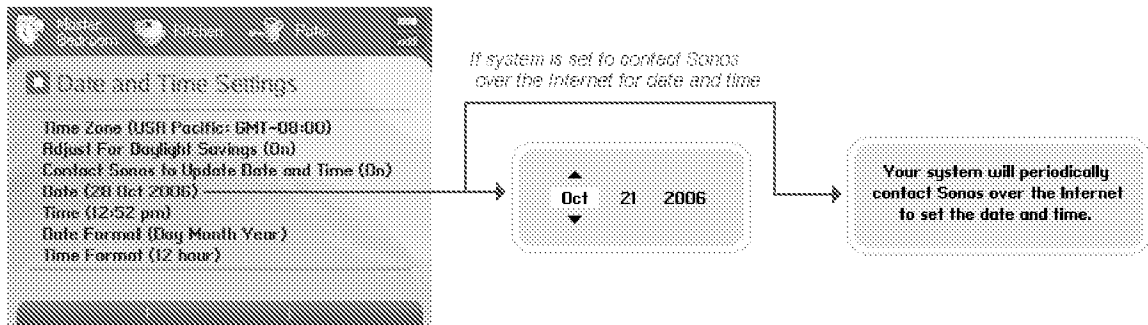
See Section on Sleep Timer earlier in this document.

3.7.7 Play Alarm Now

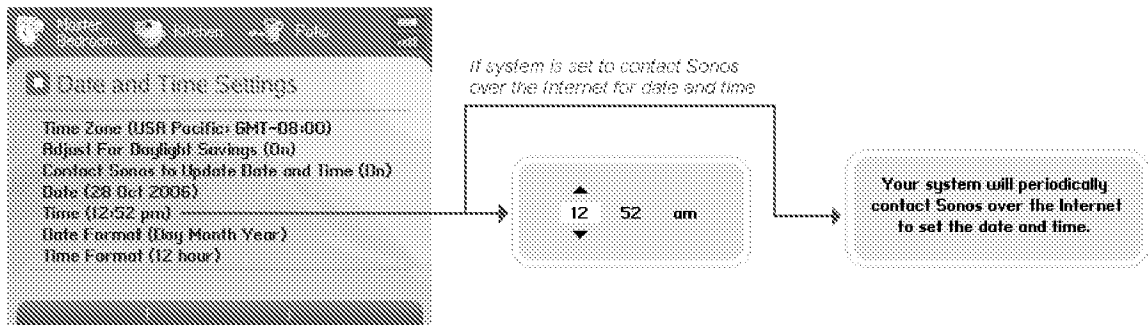
Sonos UI Specification: Alarm Clock**3.8 Setting the current date and time****3.8.1 Time Zone**

Sonos UI Specification: Alarm Clock

3.8.2 Adjust for Daylight Savings**3.8.3 Contact Sonos for Updates**

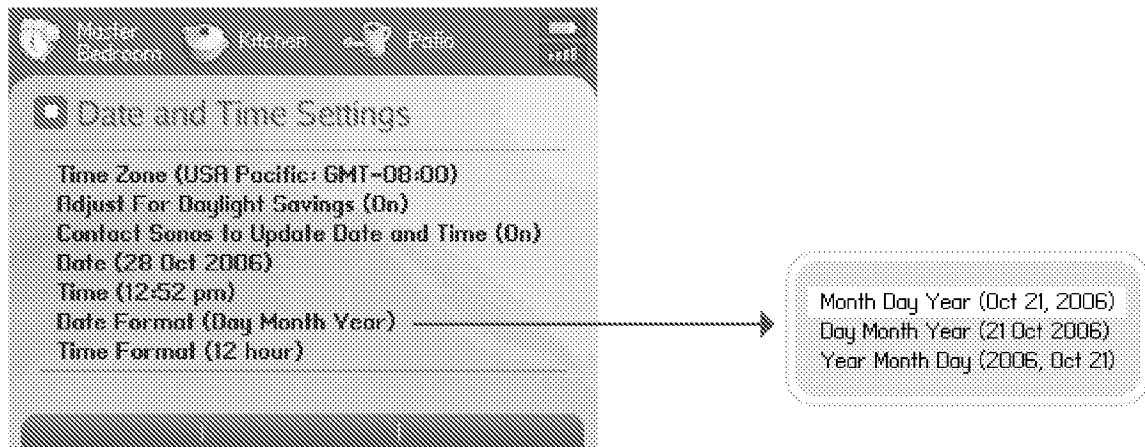
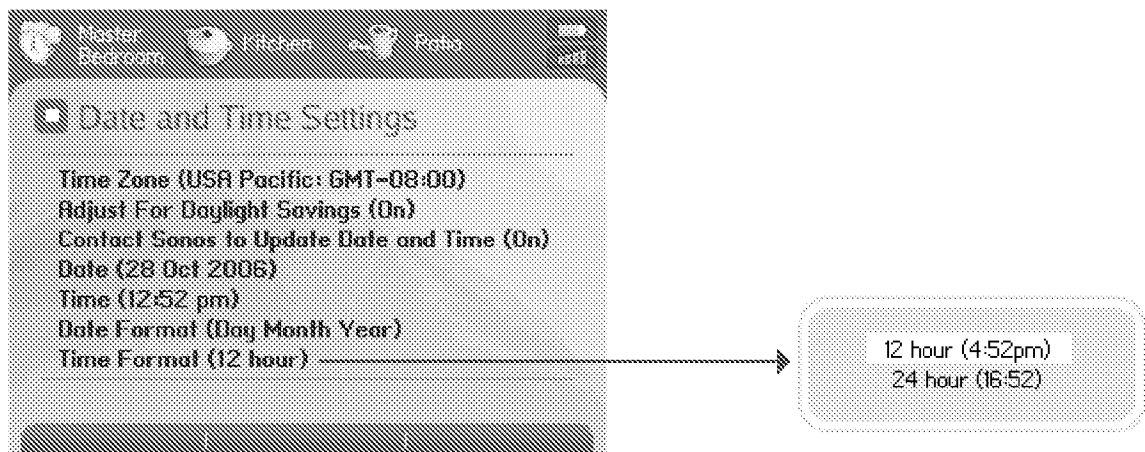
Sonos UI Specification: Alarm Clock**3.8.4 Date**

- If the system is set to get the date and time from the Internet, the user should not be able to manually adjust the date and time.
- In this case, a simple message is shown instead of the date or time editor.

3.8.5 Time

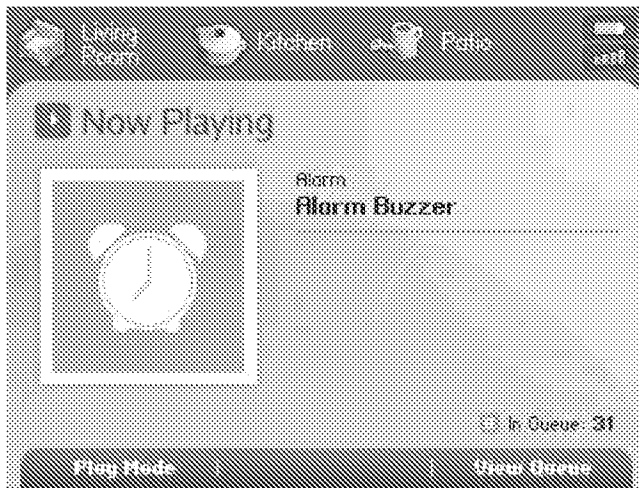
- If the system is set to get the date and time from the Internet, the user should not be able to manually adjust the date and time.
- In this case, a simple message is shown instead of the date or time editor.

Sonos UI Specification: Alarm Clock

3.8.6 Date Format**3.8.7 Time Format**

Sonos UI Specification: Alarm Clock

3.9 Buzzer



- Buzzer has it's own Now Playing screen
- Play/Pause will work the same as regular music
- The template for the Now Playing screen if the Line-In Source Now Playing.

Sonos UI Specification: Alarm Clock

4 UI Spec for DCRs

4.1 PC Menu



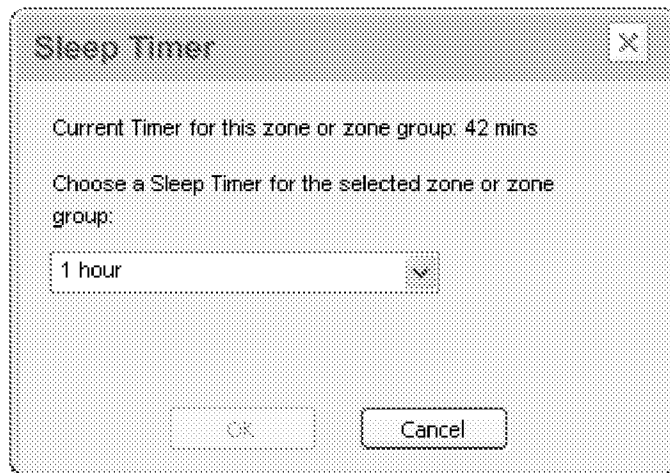
Letter Underscore shortcuts

Current underscore short cuts on this menu: N, P, L, D, Z

Click and Alarms (C)

Sleep Timer (S)

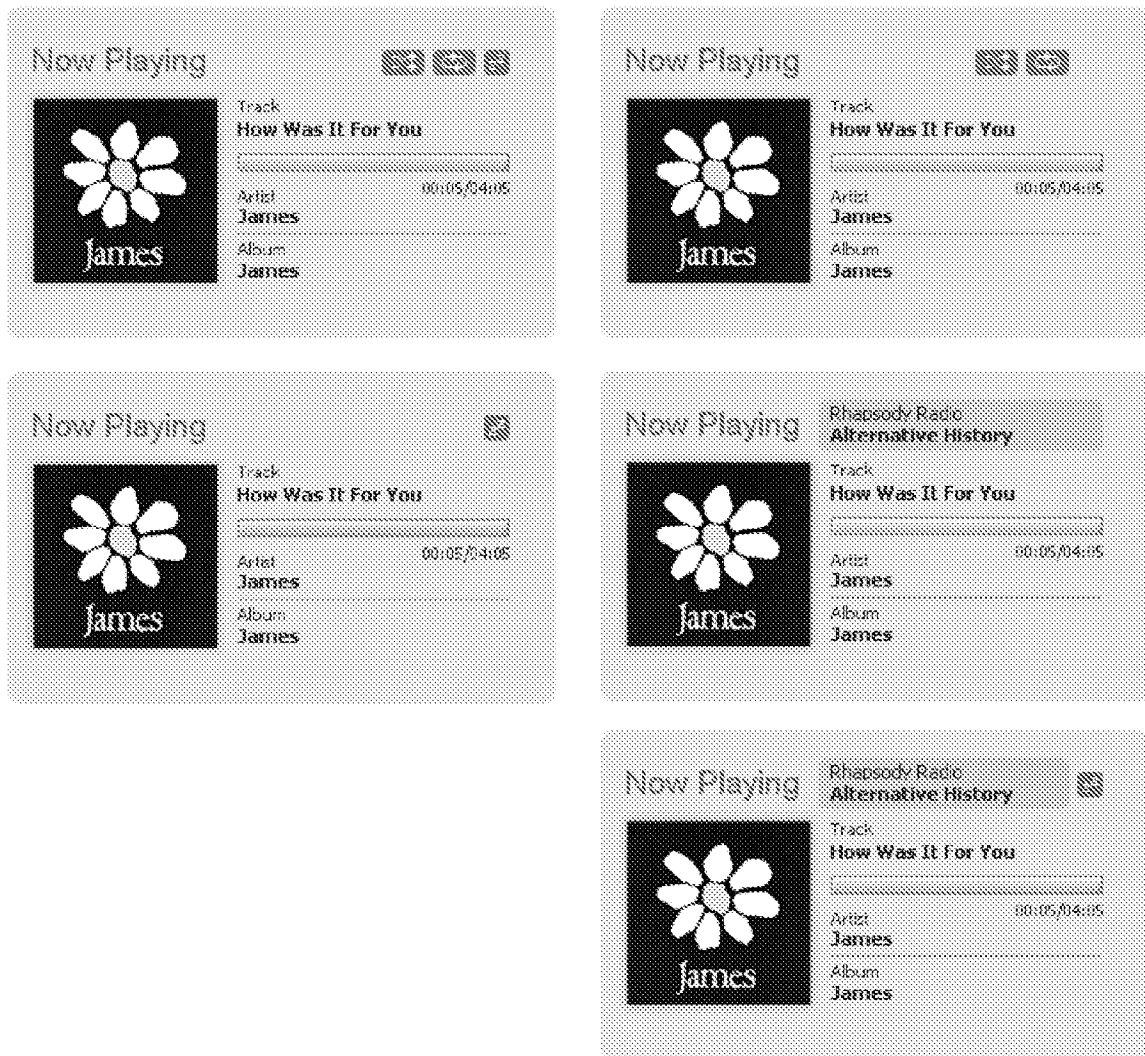
Sonos UI Specification: Alarm Clock

4.2 Sleep Timer

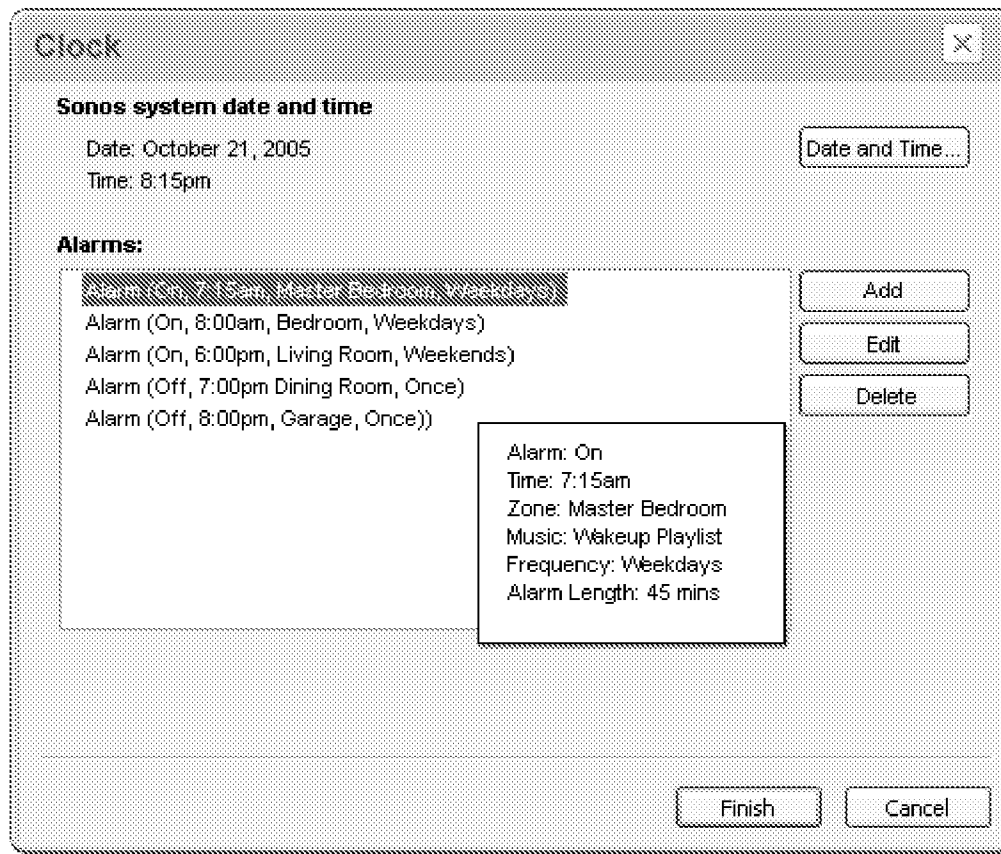
- Sleep timer will have the following variables: Off, 15min, 30mins, 45mins, 1hours, 2 hours.
- A sleep timer applies to all the current zones in the current group
- When the sleep timer stops (i.e. the time reaches 0 seconds), it should revert to 'Off'.
- At the end of the sleep time (0 seconds), the current Zone Group should be Paused.
- The time in parenthesis should show the count down.
- If the current zone group is already paused, no changes to the play head will be made.
- (the alarm timer is the same as the sleep time, described later in this document)

Rules for Zone Group changes while the Sleep timer is active

- A Sleep timer is set for the current zone (or zone group) that the user is viewing on the CR. The timer is applied to all the zones in that particular group.
- Any zone added to the zone group takes on the same timer.
- Any zone dropped from the group will have it's timer reset to Off.
- Any zone taken by another group will take the timer of the group it is joining (i.e. it will lose it's original timer).
- Pausing the music has no effect on a sleep timer .
- Clearing the Queue has no effect on a sleep time .
- Altering the Queue (adding, moving, deleting tracks) has no effect on the sleep timer
- The user can change the timer settings while it is running (i.e. turn it off, or change the sleep time).

Sonos UI Specification: Alarm Clock**The Now Playing screen showing the Sleep Timer/ Alarm Timer**

- The sleep timer icon is shown next to the Shuffle and Repeat icons
- The right edge of the snooze icon aligns with the right edge of the track progress bar
- The separation between the icons is 6 clear pixels
- The blue Rhapsody Radio 'bubble' should be horizontally resized when the snooze icon is present.
- The gap between the right edge of the blue bubble and the left edge of the snooze icon should be 6 clear pixels.
- The snooze icon should site in the vertically in the middle of the blue bubble (in actual fact it will be off-centre (lower) by one pixel).
- The Shuffle and Repeat icons will need to be lowered to align horizontally with the snooze icon.
- TBD – can a tool tip rollover show the remaining time.

Sonos UI Specification: Alarm Clock**4.3 Clock and Alarms**

TBD –state when the time has been lost (due to power failure for instance)

Alarm List

- Shows each alarm with a list of major attributes (but not all attributes)

Tool Tips

Tip box shows an overview of all the Alarm's attributes

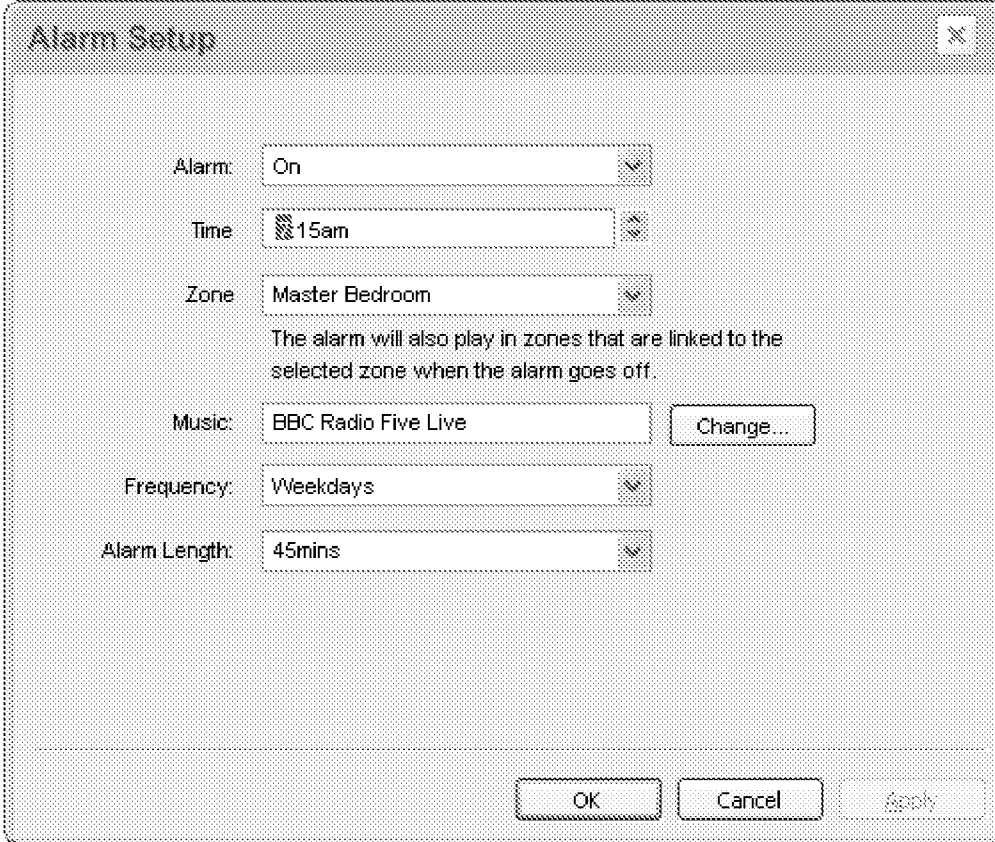
Add Alarms

- Alarms are named with standard names – no custom names for alarms.
- The system limits the number of alarms to 32 alarms
- If n alarms is exceeded, the following message will show:
 - You can't add any more alarms, please delete an alarm before you add a new one [OK]

Delete

- Following message:
 - Are you sure you want to delete the alarm? [Yes] [Cancel]

Sonos UI Specification: Alarm Clock

4.4 Edit an Alarm

The image shows a screenshot of the 'Alarm Setup' dialog box. The dialog has a title bar with the text 'Alarm Setup' and a close button (X) in the top right corner. The main content area contains several settings:

- Alarm:** A dropdown menu with 'On' selected.
- Time:** A time selection field showing '15am' with up and down arrows.
- Zone:** A dropdown menu with 'Master Bedroom' selected. Below this dropdown is a note: 'The alarm will also play in zones that are linked to the selected zone when the alarm goes off.'
- Music:** A text field containing 'BBC Radio Five Live' and a 'Change...' button to its right.
- Frequency:** A dropdown menu with 'Weekdays' selected.
- Alarm Length:** A dropdown menu with '45mins' selected.

At the bottom of the dialog, there are three buttons: 'OK', 'Cancel', and 'Apply'.

Sonos UI Specification: Alarm Clock

4.4.1 Details of Settings**Alarm**

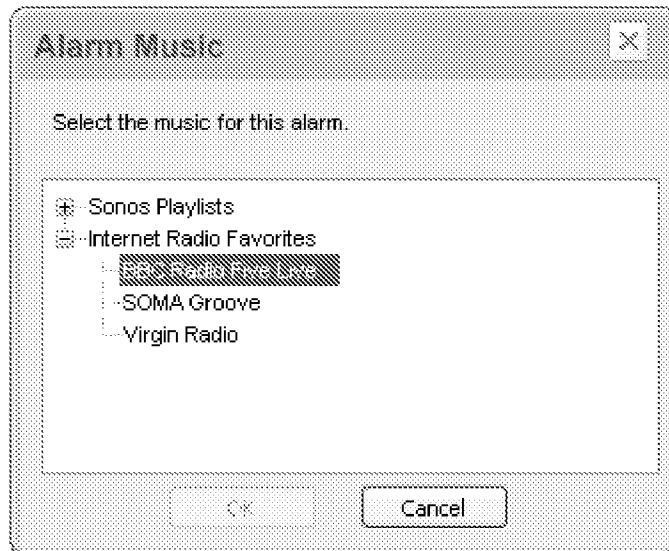
- On
- Off
-

Time

- Same as default Windows/Mac time setting field

Zone

- A single list of the zones in the system is presented.
- The alarm will also sound in any rooms that are linked to the selected zone at the time of the alarm.

Music

- TBD – this could also be a combo-box with sub menus.
- TBD – we may add “Rhapsody Stations” and “Current Queue” to this list.

Frequency

- Once
- Weekdays
- Weekends
- Everyday

Alarm Length

- No Limits
- 15 mins
- 30 mins
- 45 mins
- 1 hour

Sonos UI Specification: Alarm Clock

- 2 hours

- The 'No Limit' option means that no alarm timer will be set
- The alarm timer is the same as the sleep timer.
- When an alarm with a timer (anything other than 'no limit') starts, the sleep timer for the zone (or zone group) is triggered.
- Users can override the alarm timer by setting the sleep timer.

Zone linking/unlinking activities

- The alarm length applies to the zone group at the time the alarm is triggered (zone + any linked zones)
- Any zone later added to the group will take on the timer from this alarm.
- Any zone dropped from the group will no longer take part in the alarm length timer.
- Any zone from this group taken by another group will take the timer of the group it is joining (i.e. it will lose it's original timer).
- Pausing the music has no effect on the alarm length timer .
- Clearing the Queue has no effect on a sleep timer .
- Altering the Queue (adding, moving, deleting tracks) has no effect on the sleep timer

The Now Playing screen showing the Sleep Timer/ Alarm Timer

See Section for Sleep Timer earlier in this document.

Sonos UI Specification: Alarm Clock

4.5 Setting the current date and time on the Desktop Controllers

During the initial setup Wizard, if the DCR is creating a new system (i.e. not just joining an existing system) – the date and time from the PC will be captured and used for the Sonos clock..

Set Up Date and Time

Time zone: Eastern Standard Time (US and Canada) - Miami

☒ Automatically adjust the clock for daylight savings changes

Date format: Day Month Year

Time format: 12 hour

☐ Set the date and time from the Internet

☒ Set the date and time manually

14 April 2006

12:39 PM

Ok Cancel

Sonos UI Specification: Alarm Clock**4.6 Setting alarm music directly from the Music Library**

This feature is TBD pending feedback from John B.



Should the user be able to add to a New alarm – in which case the edit alarm panel should then open.

4.7 Buzzer

- Buzzer has it's own Now Playing screen
- Play/Pause will work the same as regular music
- The template for the Now Playing screen if the Line-In Source Now Playing.

5 Date and Time formats

5.1 Date Formats

Three date formats will be provided

Date Month Year (DMY)

Month Date Year (MDY)

Year Month Date (YMD)

Desktop Controllers

Months are written in full

(MDY) October 21, 2006 (date should be followed by comma)

(DMY) 21 October 2006 (no commas)

(YMD) 2006 October 21 (no commas)

Handheld Controllers

Months will be abbreviated to 3 or 4 letters.

Days of the week (clock face only) will be abbreviated to 2 or 3 letters

Setup screens and menus will show:

(MDY) Oct 21, 2006

(DMY) 21 Oct 2006

(YMD) 2006 Oct 21

For the clock screen, use shortened versions of the day of the week.

(MDY) Mon, Oct 21, 2006

(DMY) Mon, 21 Oct 2006

(YMD) 2006 Oct 21, Mon

Abbreviations for English are as follows:

Mon, Tue, Wed, Thu, Fri, Sat, Sun

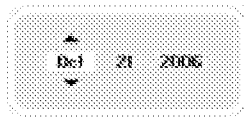
Jan, Feb, Mar Apr, May, Jun, Jul, Aug, Sep, Oct, Nov, Dec

Setup dialogs

Setup dialogs that show separate fields for fields will not contain commas or colons

For example, the following setup dialog does not contain a comma, even though the date is written-out with a comma (**Oct 21, 2006**)

Sonos UI Specification: Alarm Clock

**5.2 Time Formats**

Two time formats will be provided

12 hour clock (am/pm)

24 hour clock

A colon (:) should be used to separate hours and minutes. Seconds are not used anywhere in the UI.

12 hour

HH:MM_am (where am, pm are localized)

24 hour

HH:MM

Single digit times should not be expressed with a leading zero

12 hour clock

Use 6:17 am

Don't use 06:17 am

24 hour clock

Use 6:17 and 0:12

Don't Use 06:17 and 00:12

5.2.1 Date Range limits

It will be possible to set the clock and alarms from 12.00am year 2000 to 11.59 2099.

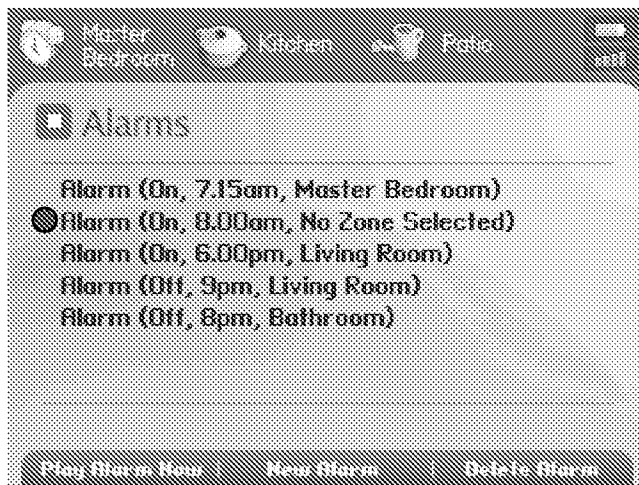
6 Special Cases ---

6.1 Lost ZonePlayers and Hidden ZonePlayers - HHCR

No ZonePlayers in the system - UI reverts to the Zone menu with limited settings. Access to Clock and Alarms is not possible.

Only Hidden ZonePlayers in the system - reverts to the Zone menu with limited settings. Access to the Clock and Alarms is not possible.

If a zone assigned to an alarm becomes lost, or hidden



Alarm Overview shows a hidden, or non-available zone



Zone available (normal state)



No Zone Available, or Zone is hidden.

Sonos UI Specification: Alarm Clock

- If a zone becomes unavailable, or it becomes a hidden Extender, the Alarm zone menu item will show “No Zone Selected”. The alarm will not sound. The Alarm should however remain in the ‘On’ state (in the case of a ZP that is temporarily unplugged).
- If the ZP becomes available again (Plugged back in, or brought out of extender mode), the Alarm zone will show the ZonePlayer name.
- If an alarm is renamed, the Alarm zone menu item will show the new name.

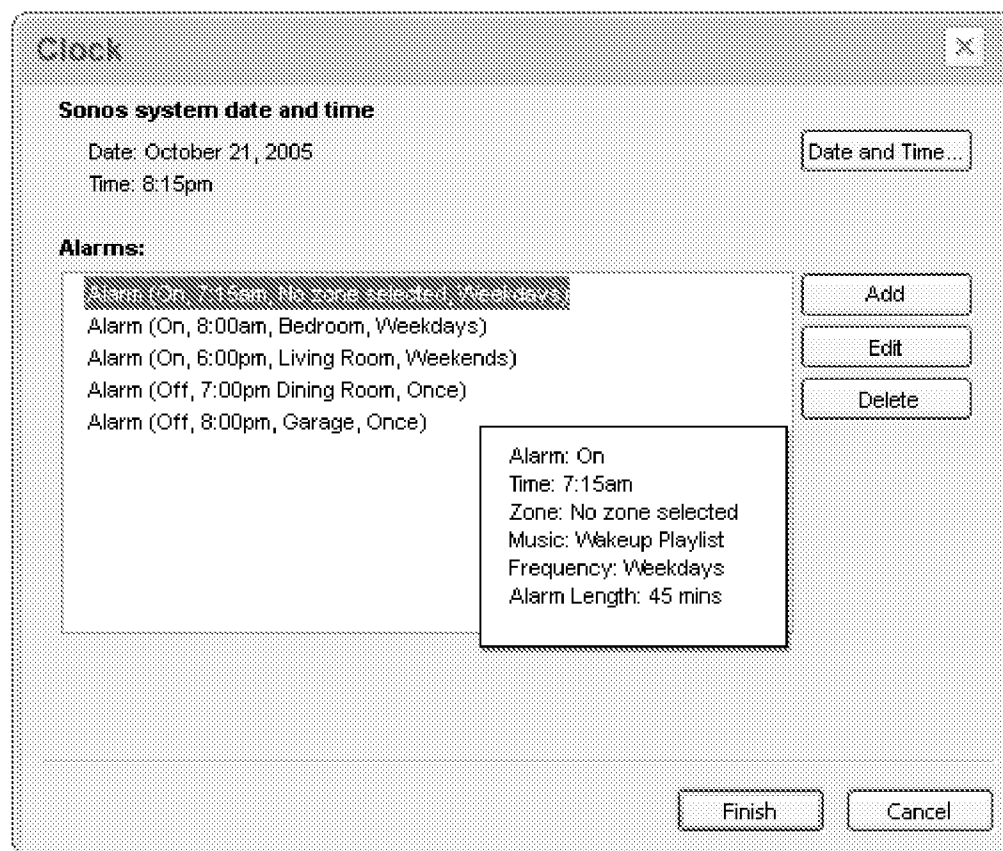
Sonos UI Specification: Alarm Clock**6.2 Lost ZonePlayers and Hidden ZonePlayers - DCRs**

No ZonePlayers in the system or if all ZonePlayers become hidden

Clocks and Alarms menu item will be grayed-out.

However, if the Clocks and Alarms dialogs are already open:

- The Alarms overview panel will remain open if no Zones are present, but all the alarms in the table should be cleared.
- Likewise the Add, Edit and Delete buttons will be grayed-out.
- The date and time should also be cleared, and the "Date and Time" Settings button should be grayed-out.
- If the "Edit" alarms modal dialog/sheet is open, All selections should be grayed-out, except 'cancel'.

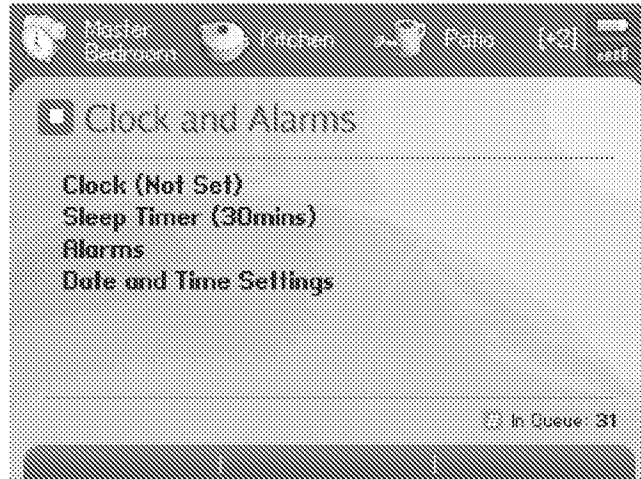


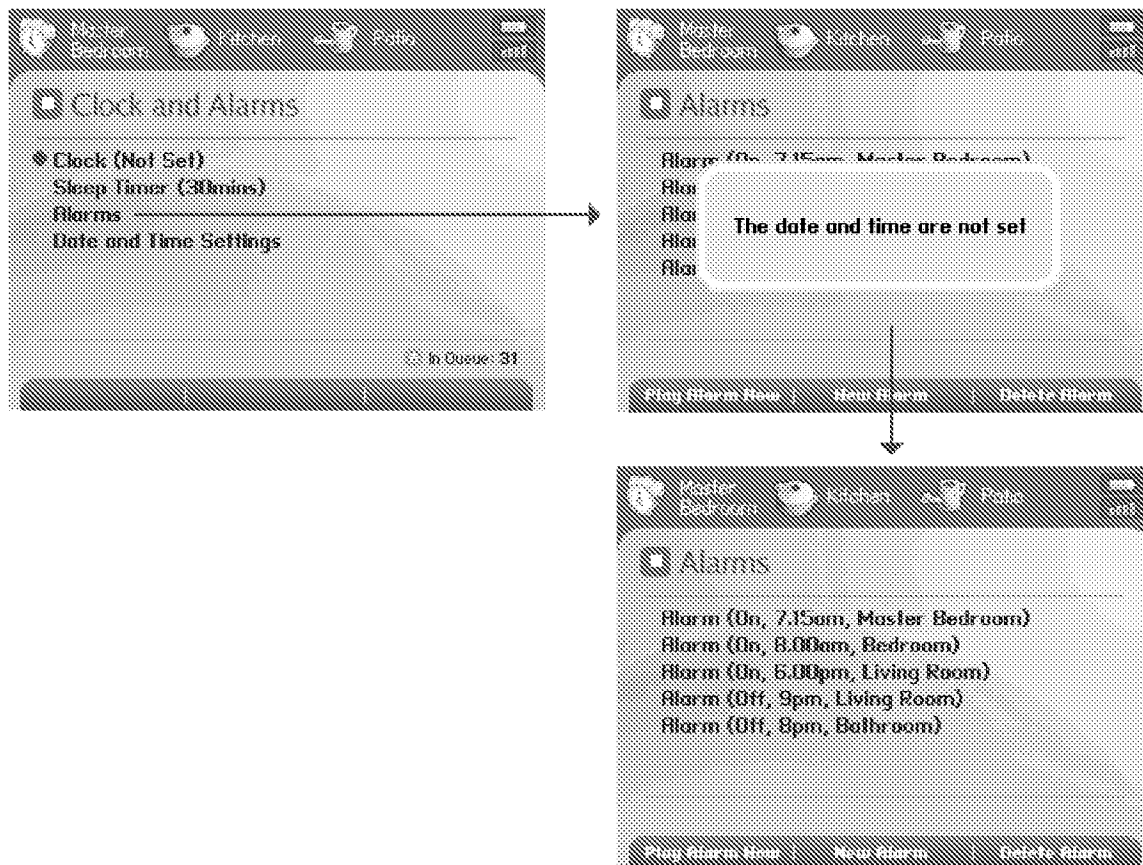
Sonos UI Specification: Alarm Clock

6.3 No Date or Time - HHCR

Date and Time can be lost if:

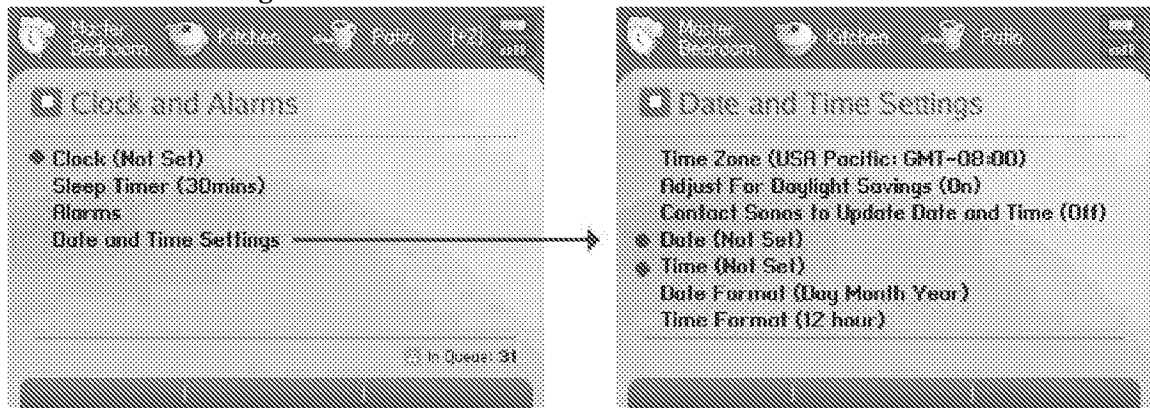
- The date and time are set manually and all the ZPs in a system lose power
- Date and Time are set to Internet time, the Internet connection is broken and all the ZonePlayers lost power.

Main Clocks and Alarm screen**Clock Screen**

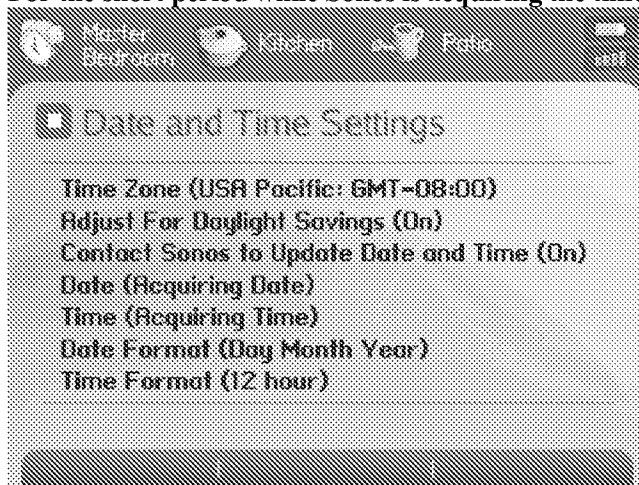
Sonos UI Specification: Alarm Clock**Alarms Overview Screen**

Nice to have, if user tries to view/set alarms while there is no time, we show a dialog box that informs the user (but doesn't prevent them from viewing and editing the alarms).

Sonos UI Specification: Alarm Clock

Date and Time Settings

For the short period while Sonos is acquiring the time, but it is not yet set



It is proposed that we only show 'acquiring' on the Date and Time settings page.

The 'acquiring' message does not need to propagate to other screens of the UI.

Sonos UI Specification: Alarm Clock

6.4 No Date or Time - DCRs

Set Up Date and Time

Time zone: Eastern Standard Time (US and Canada)

☒ Automatically adjust the clock for daylight savings changes

Date format: Day Month Year

Time format: 12 hour

☐ Set the date and time from the Internet

☒ Set the date and time manually

14 April 2006

12:39 PM

Ok Cancel

- The red text under the Internet date and time communicates that the Internet connection to SonosTime is not available. At this stage the system will be either counting time using its internal clock, or the time will be not set.

| Electronic Patent Application Fee Transmittal | | | | |
|---|-----------------|--|---------------|-----------------------------|
| Application Number: | | | | |
| Filing Date: | | | | |
| Title of Invention: | | Controlling and manipulating groupings in a multi-zone music or media system | | |
| First Named Inventor: | | Robert A. Lambourne | | |
| Filer: | | Joe Zheng | | |
| Attorney Docket Number: | | RIN-022P | | |
| Filed as Small Entity | | | | |
| Provisional Filing Fees | | | | |
| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
| Basic Filing: | | | | |
| Provisional Application filing fee | 2005 | 1 | 100 | 100 |
| Pages: | | | | |
| Claims: | | | | |
| Miscellaneous-Filing: | | | | |
| Petition: | | | | |
| Patent-Appeals-and-Interference: | | | | |
| Post-Allowance-and-Post-Issuance: | | | | |
| Extension-of-Time: | | | | |

| Description | Fee Code | Quantity | Amount | Sub-Total in USD(\$) |
|-------------------|----------|----------|--------|----------------------|
| Miscellaneous: | | | | |
| Total in USD (\$) | | | | 100 |

Electronic Acknowledgement Receipt

| | |
|--|--|
| EFS ID: | 1198006 |
| Application Number: | 60825407 |
| Confirmation Number: | 1970 |
| Title of Invention: | Controlling and manipulating groupings in a multi-zone music or media system |
| First Named Inventor: | Robert A. Lambourne |
| Customer Number: | 26797 |
| Filer: | Joe Zheng |
| Filer Authorized By: | |
| Attorney Docket Number: | RIN-022P |
| Receipt Date: | 12-SEP-2006 |
| Filing Date: | |
| Time Stamp: | 23:58:04 |
| Application Type: | Provisional |
| International Application Number: | |

Payment information:

| | |
|---|--------|
| Submitted with Payment | yes |
| Payment was successfully received in RAM | \$ 100 |
| RAM confirmation Number | 722 |
| Deposit Account | 502436 |
| The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 and 1.17 | |

File Listing:

Case 3:20-cv-06754-WHA Document 712-4 Filed 05/11/23 Page 96 of 96

| Document Number | Document Description | File Name | File Size(Bytes) | Multi Part | Pages |
|---|-------------------------|------------------------|------------------|------------|-------|
| 1 | Specification | ProvisionalAsfiled.pdf | 117135 | no | 14 |
| Warnings: | | | | | |
| Information: | | | | | |
| 2 | Drawings | Drawings.pdf | 94791 | no | 5 |
| Warnings: | | | | | |
| Information: | | | | | |
| 3 | Specification | AppendixA.pdf | 450053 | no | 20 |
| Warnings: | | | | | |
| Information: | | | | | |
| 4 | Specification | AppendixB.pdf | 979042 | no | 43 |
| Warnings: | | | | | |
| Information: | | | | | |
| 5 | Fee Worksheet (PTO-875) | fee-info.pdf | 8123 | no | 2 |
| Warnings: | | | | | |
| Information: | | | | | |
| Total Files Size (in bytes): | | | 1649144 | | |
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